

Paper based rapid prototyping of
a dilemmatic pedagogy for the
interpretation of narrative texts in
classrooms

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Abstract

Educational design-based research (DBR) posits classrooms as ‘learning ecologies’, and is distinguished by its ambition to design rather than simply describe them. However critics point to a lack of specificity as to the ontological status of these environments and in the argumentative grammar by which theory and method are coordinated to this end (Sandoval 2014). This thesis advances a model for DBR at programme level, coordinating ethnographic methods and single subject experiments in the design and research of learning ecologies involving the interpretation of narrative in classrooms.

Section One begins with the ‘teaching dilemma’ that inspired the research. This is then reconceptualised as a subtype of ‘interpretive dilemma’- a dynamically changing problem space whose structural and relational dimensions are realised in the symbols by which people position themselves and others in the course of their interactions. On this basis, interpretive dilemmas are proposed as a unit of analysis for the research of learning ecologies in general and, specifically, those that may remediate students’ restricted orientation to narrative texts.

Each of the following three sections is given over to a different DBR output relating to the design and research of a dilemmatic pedagogy for narrative interpretation. Section Two advances a ‘domain theory’ which models the role code may play in the realisation of interpretive dilemmas in school. Section Three sets out the ‘design methodology’ by which prototype materials derived from this theory can be researched and developed. Microgenetic analysis of video recorded rapid prototyping sessions in Section Four serves to identify ways that the ‘design framework’ can be addressed to particular micro-ecologies during the subsequent field trial proposed in Section Five.

Dedication

George & Maxton

*Systematic reasoning is something we could not, as a species, possibly do without.
But neither, if we are to remain sane, can we possibly do without direct perception,
the more unsystematic the better, of the inner and outer worlds
into which we have been born.*

(Aldus Huxley, *The Doors of Perception*)

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Introduction

Aims of thesis

Asking the question that most students of ideology fail to ask, what precisely do we mean when we assert that sociopsychological strains are “expressed” in symbolic forms gets one, therefore, very quickly into quite deep water indeed. (Geertz 1973, p.213)

The thesis constitutes the initial phase of a longer term Design-Based Research (DBR) programme. The overall aim is to design a pedagogy that allows interpretive dilemmas to be stimulated as a pedagogic strategy. In the context of the thesis, ‘interpretive dilemma’ is a type of ideological strain that occurs when students perceive competing interpretations that equally apply to a given word or phrase encountered in a narrative. It is argued that these episodes have educational value because they require students to be active in the construction of meaning and to recognise texts as open to multiple interpretations. Interpretive dilemmas are taken to be a problem space with social, semiotic and psychological dimensions which, as Geertz warns, has profound implications for those attempting to engineer and forecast these phenomena. The thesis is a response to this challenge over five sections.

Structure of the thesis

A distinguishing feature of DBR is that it departs from a particular practical and/or theoretical problem (McKenny & Reeves 2013). **Section One**, therefore, develops a definition of the problem to be addressed by subsequent sections of this thesis. A critical incident is initially used as a vehicle to explore the notion of ‘*teaching dilemmas*’ in classrooms. This term refers to situations where students are seen to apply ‘healthy’ strategies, but arrive at interpretations of a task that are not considered relevant by the teacher. They are termed *teaching dilemmas*, in part, because it is teachers and not pupils who tend to be aware of these crises and take responsibility for their resolution. An analysis of key theoretical models relating to teaching dilemmas suggests they might be better understood as a subclass of a wider phenomenon referred to as ‘interpretive dilemmas’. Subsequent to this, two key questions are raised:

- *Should responsibility for managing these 'teaching' dilemmas be passed to students as a pedagogic strategy?*
- *If it is the case that teachers and children perceive dilemmatic situations differently, how would it be possible for teachers to plan interpretive dilemmas that children would notice and draw benefit from?*

A systematic review of empirical studies comparing teacher and student experiences revealed that although the dilemmatic situations described in these studies were framed by similar parameters (e.g. *knowledge climate, teacher disposition, school culture*) the way these dimensions combined was adventitious and hard to predict. This finding led to a hypothesis that interpretive dilemmas are ecological phenomena- they represent a dynamic problem space that has both relational and structural dimensions. The assumption that dilemmas are an ecological phenomenon presented three significant challenges in pursuing the thesis aims.

First, if teachers and researchers are to design interpretive dilemmas as a pedagogic strategy, a theoretical model is needed that allows the effects of these designs to be forecasted. In essence, a model of the classroom as an ecological system is needed for which interpretive dilemmas serve as the unit of analysis. This is the focus for **Section Two** which sets out the rationale for a **domain theory**, where

A domain theory is the generalization of a problem analysis. A domain theory might be about users of interactive systems and how they learn to use and interact with the systems, or about the context of the system usage and how it influences the user and interaction. (Obrenovic 2011, p.57)

A methodological framework is then needed that grounds refinement of the domain theory in the micro analysis of students' interactions. In particular this needs to explain how and why causal mechanisms that are active in the ecology can be inferred from data that are stochastic and seemingly random. This is the focus for **Section Three**, which sets out the rationale for the **design methodology** as a long term multi-phase DBR programme where

....a design methodology describes a process for producing a class of design solutions, the types of expertise required, and the roles of people with these types of expertise.
(Obrenovic 2011, p.57)

Given the dynamic and complex nature of dilemmas, an approach to design and development was needed whereby early prototype materials could be flexibly adapted. Hence, the phase of the design methodology executed within the thesis follows the principles of **rapid prototyping**, where

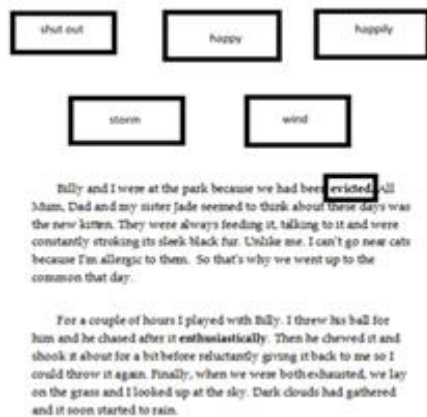
Plans can easily be changed during the research, development, and even utilization phases because the model takes advantage of the flexibility of the medium used to create the instructional sequence and strategy. (Tripp & Bichelmeyer 1990, p.39)

Section 4 sets out the rationale by which analysis of data gathered during rapid prototyping may lead to the formulation of **design frameworks** that can be systematically tested. These data are mainly in the form of video recordings of children interacting with designed materials but also include field notes, recordings of meetings, interviews and samples of work. The resulting design framework serves to

.....describe the characteristics that a design solution should have to achieve a particular set of goals in a particular context. In other words, a design framework represents a collection of coherent design guidelines for a particular class of design.
(Obrenovic 2011, p.57)

Although the exact specifications of the design framework were subject to modification during the rapid prototyping phase, its overall configuration remained fairly consistent. The designed materials comprised a tool and a text that, in tandem, were intended to stimulate dilemmas that would be unlikely to occur were the text to be accessed directly. The designed activity structure split taught sessions into four phases:

1. *Reading aloud*
2. *Using the tool to manage and solve dilemmatic choices of word meaning*
3. *Reconstructing the text content in visual form*
4. *Using this reconstruction as the basis for a retell of content.*



Dilemmatic materials (left) and text reconstruction (right)

The aim of the thesis is to produce a design framework- materials and principles for their use- whose effect could then be systematically tested.

Section 5 outlines the proposed procedure for systematically testing the design framework that resulted from rapid prototyping by means of a single subject experiment.

Research questions

Rather than predetermining the nature of an inquiry, research questions in DBR evolve over the course of a study.

In early stages, in the so-called context of discovery, open-ended exploration is common to design studies, just as it is in any other branch of science. This wide-ranging exploration turns into systematic descriptions and evolves into well-formulated questions, creating a context for verification. The design-study question – and, consequently, the research method – most likely depends upon where in the evolution of the design it is posed. (Shavelson et al 2003, p.28)

Research questions serve to punctuate the logic by which a design concept evolves over the phases that comprise a research programme.

The goal then becomes to characterize the design elements that are in place in each phase and the reasons for the transitions from each phase to the next. Data relevant to research questions should be collected in each phase. (Collins et al 2004, p.34)

The research questions addressed in each section of the thesis are these:

- **Section 1-** *What are teaching dilemmas?*
- **Section 2-** *How can interpretive dilemmas be modelled in terms of their social, psychological and semiotic dimensions?*
- **Section 3-** *What are the implications of this model for research methodology?*
- **Section 4-** *What is happening when students use the designed materials?*
- **Section 5-** *How can prototypes be tested for systematic effect?*

Authorial style and dialogic principles

Vygotsky's writing is characterized by what he wryly refers to as his "tedious investigations" into extant views (1999, p. 119). In order to create space for his own revolutionary ideas, he first needed to unpack and refute, in excruciating detail, the ideas of those he sought to displace in accounting for human mentation.
(Smagorinsky 2011, p.16)

My apologies if at times the reader finds sections of the analysis pedantic and heavy on direct quotations. Unlike Vygotsky's output, this thesis contains little in the way of outright refutation and does not present ideas that are in and of themselves revolutionary. Instead it seeks to combine extant theories and methodologies in order to innovate in a specific area of learning. The first three sections of the thesis in particular may indeed be tedious in their detail, but I feel this is a necessary evil. I am conscious that the sheer number of theoretical perspectives needed to conceptualise dilemmatic spaces risks oversimplifying and traducing their authors' original intended meaning. Accordingly, development of the domain theory and design methodology has been conducted according to the principles of dialogism.

Dialogism is precisely the kind of relation that conversations manifest..... That relation is most economically defined as one in which differences- while still remaining different- serve as the building blocks of simultaneity.... (Holquist 1990, p.40)

The approach taken, therefore, is not to paraphrase sources in order to subsume them within the thesis, but to use direct quotes at key junctures in the analysis. Doing so, I believe, allows each contributing 'voice' to retain its distinctive character and tone alongside that of my own.

Section One Defining the problem

Summary of Section One

Aims

In this section of the thesis a critical incident drawn from the author's own teaching practice forms the starting point for an analysis of extant published literature on the subject of teaching dilemmas. It is argued that these are better understood as interpretive dilemmas that have value as a means to enhance students' development. The section ends with a consideration of the theoretical and methodological implications of designing a pedagogy based on this premise.

Research question

What are teaching dilemmas?

Overview of chapters

Chapter 1 Reflections on a teaching dilemma drawn from personal experience.

Chapter 2 Examining how teaching dilemmas have been conceptualised and making the case that they might be better understood as a sub class of the broader phenomenon of 'interpretive dilemmas'.

Chapter 3 An extant review of studies into teaching dilemmas is critiqued. The potential application of dilemmas as a pedagogic strategy is raised.

Chapter 4 A review of studies that compare student and pupil experiences of interpretive dilemmas is used to gauge the theoretical and methodological implications of designing them as a pedagogic strategy.

Chapter 1 Personal reflections on the nature of teaching dilemmas

1.1 A critical incident

In 2002 I was working as a National Strategy consultant in the north east of England. My role was to collaborate with practitioners to raise standards in reading, with a particular focus on pupils in Year 6. At that time the local authority was under considerable pressure from central government to increase Level 4 pass rates in the end of Key Stage tests. Consequently, much of my time was spent working with children who were judged to be 'at risk' of not achieving this benchmark. The critical incident that inspired this thesis took place during a discussion with six students about 'The Ghost of Thomas Kempe', a novel by Penelope Lively. The story concerns a boy who is haunted by the eponymous poltergeist, a medieval sorcerer. James, the main character, is wrongly suspected of causing damage that had actually been wrought by the ghost and struggles to prove his innocence in the eyes of his parents. We were talking about the following extract.

Mr and Mrs Harrison were unusually irritable the next morning. They had had a very disturbed night, it seemed. The alarm clock, apparently, had kept going off at irregular intervals from midnight onwards.

'Why did it do that, Dad?' said James. He, too, had suffered: his bedcover had been twitched off three times, but there was no point in mentioning that.

'It's gone wrong, I presume,' said Mr Harrison, snappishly.

James said nothing: if people had to be so unswerving in their beliefs the only thing you could do was let them go their own way. (Lively, 1973, p.68)

I had asked the children to use the four roles of Reciprocal Teaching (RT) (Palincsar & Brown 1984) to structure their comments. Members of RT groups articulate their thinking as a means to reflect upon and adjust their understanding (Collins et al 1989). The ensuing critical discussion, guided by the teacher, is assumed to be internalised in the form of a system for the self-regulation of comprehension processes. These discussions sometimes centre on clarifying words whose meaning is perceived as unclear. In this passage the

word '*snappishly*' was identified by the students as a candidate. There ensued a brief conversation in which several interpretations of this word were offered.

Snappishly means:

Nothing- it's not a real word

Quickly- derived from '*make it snappy*'.

Angrily- derived from '*dogs that snap at you when they are mad*'.

Viciously- derived from '*to snap someone's head off*'.

Irritably- derived from the text. '*It says in the story his parents were irritable.*'

Although all of the students' responses were syntactically and semantically plausible, none captured the key implication of '*snappishly*'. It is not simply that James' father is irritated that the alarm clock malfunctioned- he is irritated because he suspects James of *causing* the fault. Hence, the ideal solution from my perspective as a consultant was:

Accusingly- i.e. James' parents suspect him of causing the damage.

My dilemma was how to elicit this preferred response in a way that did not denigrate the healthy strategies behind their part correct responses.

1.2 The teacher's dilemma?

A dilemma occurs when an individual is confronted with two equally desirable or undesirable choices. The key characteristic of a dilemma is that one loses whatever one chooses.

A choice of action is unclear because choosing one commitment involves denying what may be an equally important alternative commitment, and so to choose results in loss.
(Helsing 2007 p.1318)

The '*teacher's dilemma*', a term coined by Edwards and Mercer (1987), is a dilemma that is specific to knowledge and how it is constructed in schools. It refers to situations, as in the critical incident above, where the nature of learning itself is at issue. The teacher experiences irreconcilable pulls- to allow pupils to develop as autonomous learners or direct them towards what it is they need to know.

The teacher's dilemma is to have to inculcate knowledge while apparently eliciting it.
(Edwards & Mercer 1987, p.126)

The teacher's dilemma as they call it lies in the problem of reconciling experiential pupil centred learning with the requirement that pupils rediscover what they are supposed to.
(Jaworski 1999, p.164)

The above quotes suggest that teachers do not 'own' dilemmas in the sense that they are wholly responsible for creating them. Instead, dilemmas originate with others' moral imperatives (*have to; supposed to*) that are self-contradicting. Teachers are, however, held fully accountable for the paradoxes that result. This phenomenon can be seen in current policy discourse. Ofsted currently disavow any intent to prescribe criteria for good teaching practice.

To be judged as 'outstanding' overall, schools must have outstanding teaching. Inspectors will not expect to see a particular teaching style. (Ofsted 2012a, p.4)

Yet, at the same time, an assertion is made that *both* attainment *and* understanding can and should be taken as *joint* indices of good teaching.

However, they will look for evidence of teaching through which pupils make excellent progress, acquire knowledge, deepen their understanding and develop and consolidate their skills. (Ibid, p.4)

A study by Vosnaidou (2007) illustrates how 'progress' and 'understanding', far from being equivalents, can sometimes come into opposition. *Understanding* of a scientific concept such as 'day and night' emerges gradually as young children experiment with and develop their own naïve quasi-scientific explanatory models. Although clearly wrong, as an intellectual stepping stone leading to full understanding of the concept, the proto-theory below has much going for it. For instance, the earth is correctly identified as moving relative to the sun, not the other way round.

According to another model, the earth rotates in an up/down fashion while the sun and the moon are stationary and located at diametrically opposite sides around this up/down rotating earth. (Ibid, p.60)

Similarly, the proffered interpretations of 'snappishly' were 'wrong' in that they related to personal experience rather than a deep understanding of the text. Even so, each interpretation fitted the plot, made sense grammatically and showed a good understanding of morphology.

In both these cases, however, understanding is won at the cost of *progress*—much time would have been saved by simply showing the children how the solar system works or telling them what snappishly means. Yet to do this would be to sacrifice understanding for efficient uptake of information. Coffey et al (2011) give an example of this, again in the context of scientific inquiry. Instead of seeing themselves as proto-scientists who have agency as creative problem solvers, students instead tend to go through the motions and ‘do the lesson’. This is because the credit of receiving good grades supplants exploration of scientific principles as the key motivation for learning. Teachers are prone to collude in this game because exam success can be achieved more efficiently through a fileting of the inquiry processes it is designed to index (Berliner 2011). A survey of 558 English teachers (James & Pedder 2006) illustrates the degree to which practitioners feel forced to compromise themselves in this way. The authors found that situations where students planned and controlled learning for themselves exemplified the gap between what teachers valued most, but did least often. By contrast, teachers placed little value on curriculum determined learning outcomes, but felt required to act on these most frequently. However, when teachers give in to this pressure they are vulnerable to public censure for doing so. Again, teachers lose whatever they choose to do.

Too often, learners’ understanding is limited by teachers moving on from a topic too quickly, stepping in and providing the answer too soon, or simply not devoting enough time in the lesson to more discursive and exploratory learning. (Ofsted 2009, p.108)

There have been suggestions in the US that this pressure to sacrifice understanding for progress increases significantly when the students concerned are of low ability or from minority ethnic backgrounds (Harris & Anderson 2012). Under these circumstances, teachers’ discourse practices tend to emphasise basic skills and procedures at the expense of more ‘risky’ inquiry based approaches reserved for higher achievers. Paradoxically, therefore, the dilemma of the value practice gap is most paralysing in circumstances where there is most need for teachers to act to develop students’ agency as learners.

1.3 Intellectual dishonesty

The Social Efficiency Movement of the Victorian era produced an assessment system in schools predicated on the same time and motion principles used in industry (Shepard 2000). Knowledge to be taught was broken down into discrete facts that allowed mass instruction and testing. Hence, *educational means* (efficient acquisition of skills) and *economic ends* (higher productivity) were brought into alignment. Over time, however, there has been a parting of the ways. Rather than efficiency and consistency, modern economies value creativity and individuality in the workforce. Consequently, schools in England are now asked to produce individuals who ‘*shape the society around them*’ and are ‘*authors of their own life stories*’ (DfE 2010, p.6). However, although the ends of education have altered, the means by which progress towards these ends is measured remain rooted in the industrial age.

The most important purpose of teaching is to raise pupils’ achievement.
(Ofsted, 2012b, p.18)

In this sense policy makers in the UK have opened up an irreconcilable rift between standardisation and individuation, one that teachers cannot hope to close through their daily practices.

It has been argued that the swing in policy to include creativity/creative learning contrasts with former (and continuing) audit-culture..... An impossible tension is said to exist. (Craft & Jeffrey 2008, p.579)

People faced with impossible situations such as this are liable to resort to ‘*jerry built compromises*’ (Cuban 2001, p.12). In their schooling, students are encouraged by teachers to form their own opinions and act on their own judgement when, in fact, only certain ‘correct’ responses are privileged. In their turn, teachers are encouraged to develop pupil-centred approaches to learning whilst being made subject to an auditing system that militates against this. In each case individuals are prone to sacrificing integrity for utility through a sleight of hand referred to as *intellectual dishonesty* (Driver 1983). Rather than being strictly a ‘teacher’s’ dilemma, therefore, ownership of this phenomenon may be better understood as distributed across a system. Bronfenbrenner’s (1979) ecological model is a useful framework for understanding dilemmas as

asynchronous, involving different groups operating within different strata of the education system to different priorities and timescales.

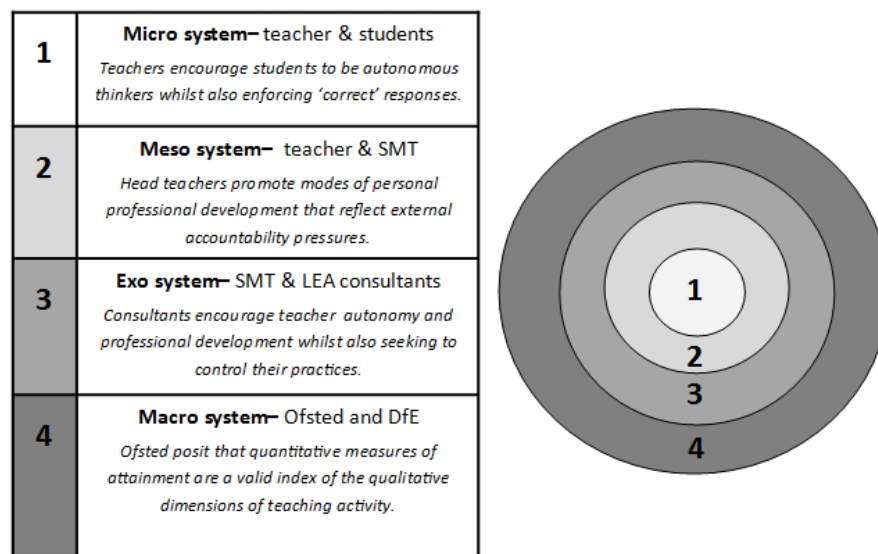


Figure 1 Levels of intellectual dishonesty in English schools. (Based on Bronfenbrenner 1979)

1.4. Implications

This chapter set out the critical incident that gave rise to the writing of the thesis and the personal reflections and questions that arose from it. The analysis thus far questions the status of teaching dilemmas as applying solely to teachers and their role. It suggests that dilemmas may be systemic phenomena, and thus extend beyond the practices of any one individual. The next chapter holds these personal theories against extant attempts to theorise knowledge-related dilemmas in classrooms. This, it is hoped, will provide clarity on the conceptual issues raised in this brief discussion of policy and practice.

Chapter 2 How teaching dilemmas are conceptualised

This chapter contrasts my initial personal reflections against key attempts to conceptualise teaching dilemmas made over the last three decades.

2.1 The dilemma language

Dilemmas are '*private troubles as public issues*' (Berlak & Berlak 1981, p.3)

Berlak and Berlak's (1981) ethnographic study of nineteen primary schools was prompted by the reputation of the English education system in the 1970s as a progressive utopia. However, their data revealed a surprising epistemological divide between *psychological* and *sociological* dimensions of pedagogic practice. The former is described as presenting knowledge as *given*, thus positioning students as passive *objects* of schooling who *acquire* learning. The latter, drawing on the critical theories of Pierre Bourdieu and Basil Bernstein, argues that this assumption is a deception because it discourages students from seeing themselves as *subjects* who *construct* knowledge.

Geoffrey Esland, writing from the knowledge as problematical perspective, says of knowledge as given that it 'disguises as given a world that has to be continually interpreted. (Ibid, p.148)

Berlak and Berlak posit that language in school simultaneously sustains and disturbs this deception. '*Familiar languages*' or '*the language of schooling acts*' mask '*qualities of experience*' that challenge absolute claims to truth (Ibid, p.125). However this '*false consciousness*' is vulnerable to wider societal tensions that permeate classroom discourse, also through the medium of language.

Each of the dilemmas thus represents contradictions in the society that reside also in the situation, in the individual and in the larger society as they are played out in one form of institutional life, schooling. (Ibid, p.126)

Drawing on the social psychology of G.H. Mead, Berlak and Berlak suggest that dilemmas are not solely *interpersonal* phenomena, external to the individual, but are also *intrapersonal* conflicts between multiple '*me*' positions of a divided self. This alters the conception of dilemmas from a single entity torn between competing options, as described earlier, to a multitude of identities

within a person, each with its own preferred path. Hence, dilemmatic situations are private troubles made public.

... dilemmas arise when one's different identities suggest contradictory solution paths.
(Enyedy et al 2005, p.72)

Seen in this way, negotiating dilemmas is as much about managing the divided self as it is about transcending the structural tensions inherent within a social system like a school. The typology of sixteen dilemmas that comprise Berlak and Berlak's '*dilemma language*' has been used as a tool to aid teachers' critical inquiry in pursuit of this goal (e.g. Traianou 2012). The language serves as a lens to make visible to teachers solutions to problems that had hitherto seemed irrelevant or closed to them.

2.2 The conflicted teacher

....the dilemma manager accepts conflict as endemic and even useful to her work rather than seeing it as a burden that needs to be eliminated. (Lampert 1985, p. 192)

Lampert's (1985) paper uses two case studies of classroom practice to posit the role of '*dilemma manager*' as central to teachers' professional development. The second of these cases involves a teacher called 'Rita', and is concerned with the type of assessment-related dilemma described in the introduction. In essence, Rita is presented with two equally plausible student interpretations of the water cycle in a geography lesson, only one of which is acknowledged as correct in the teachers' manual. In the event she does not choose between them but, instead, contrives a situation whereby both responses can co-exist- one correct according to the guide, the other correct in that it reveals the guide's limitations. Thus two meanings are accepted as applying to the same term, one consistent with school culture, the other with cultures that justifiably call schooling into question. Lampert concludes from this that conflict is endemic to the work of teachers and, as a consequence, endemic to teachers' identities.

The conflicted teacher is her own antagonist: she cannot win by choosing
(Ibid, p.182)

Lampert argues for dilemmas as a tool for professional learning on the basis that they reveal ways of knowing that are otherwise 'screened out' of awareness. In practice, however, teachers are pressured to act as professionals who are immunised against such conflict, the irony being that they surrender their professional autonomy as they do so. Lampert concludes that this state of affairs persists not so much because of government policies but because of deep-seated beliefs at the level of culture that give rise to them.

Perhaps it is our society's belief in the existence of a solution for every problem that has kept any significant discussion of the teacher's unsolvable problems out of both scholarly and professional conversations about the work of teaching. (Ibid, p.193)

2.3 Common knowledge

The teacher's dilemma is to have to inculcate knowledge while apparently eliciting it. (Edwards & Mercer 1987, p.126)

As with Berlak and Berlak's study, Edwards and Mercer were drawn to the English primary school system on account of its progressive 'learning by doing' ethos. The focus of their study was the nature of knowledge and the variety of ways it is constructed through classroom discourse. The teaching dilemmas they observed indicated that, for students at least, *interpretation* and *direct experience* were not always equivalents. They saw that pupils would sometimes ignore aspects of their concrete experiences that did not fit with the interpretation sought by the teacher. In other words, there were occasions when what the pupils *could* see in front of them was shaped by what the teacher indicated that they *should* see. Conscious of this, teachers were reluctant to make their own expectations explicit for fear of pre-empting the students' own response, with the result that:

Pupils have to divine as best they can the unspoken and implicit ground rules of the system and must learn how to extract meaning from the teacher's hints and clues how to play the classroom game. (Edwards and Mercer 1987, p.168)

The dilemmas here stemmed from social pressure for schools to inculcate a canon of *common* knowledge. If teachers tell children what to see, the children are less able to control attention for themselves and achieve autonomy. Yet if students are not directed, they risk modes of perception that are idiosyncratic

and irrelevant according to the expectations society has of schooling. The result is a kind of guessing game that reflects the intellectual dishonesty discussed in Chapter One. Preferred modes of perception are shaped through linguistic prompts that appear to invite open inquiry but do nothing of the sort. Edwards and Mercer argued that if such phenomena are to be properly understood then the *psychological, social, anthropological* and *linguistic* facets of classroom contexts need to be accounted for (p.7).

2.4 Didactic tension

Dilemmas are...*how much to direct and how much to encourage students to go in their own directions at their own pace.* (Jaworski 1994, p.137)

Edwards and Mercer's study focused on how discourse is used to inculcate knowledge that is common to teachers and students. They argue that schools have a distinct epistemological culture that seeks continuity of experience at the cost of variety and difference. Like Edwards and Mercer, Jaworski also identifies schools as ideologically committed to a conception of 'common knowledge' as an objective and coherent body of facts. This, she suggests, creates a '*didactic tension*' for teachers working within a constructivist framework. As discussed previously, pupil-centred inquiry informed by these principles leads to miscues and proto-concepts that may not match understandings for which teachers are held accountable (e.g. Vosnaidou 2007). On the other hand, moves to constrain students' meaning-making through 'telling' may impede understanding, encouraging students to

... *display the [desired] behaviour without recourse to the understanding which the behaviour is meant to indicate.* (Jaworski 1994, p.180)

She suggests that the language of classroom discourse is used to create an illusion that understanding is comprised of objective laws and principles. The result is that teachers are pressured to achieve consensus in situations where understanding of mutual differences in interpretation is perhaps a more valuable goal.

2.5 Dilemmatic space

Dilemmas- situations in which two values, obligations or commitments conflict and there seems to be no right thing to do- pose the question of difference and the ineradicability of conflict... (Honig 1996, p.258)

Fransson and Grannas (2013), referencing Honig (1996), argue that the conception of teaching dilemmas as 'critical incidents' is misplaced. Teaching dilemmas, they suggest, are not discrete bounded events that are 'triggered', but are ever present features of the 'dilemmatic space' in which all social life takes place. Honig (1996) puts it thus

Rather than springing up ab initio, dilemmas are actually the eventful eruptions of a turbulence that is always already there. They are the periodic crystallizations of incoherences and conflicts in social orders and their subjects. (Ibid, p.259)

Honig argues that social life in a democracy is intrinsically dilemmatic because it involves encounters amongst groups whose interests are inevitably in tension. Consequently, people in a society characterised by difference are continually caught between two pulls

- *Utility-* separating public actions in the service of a communal goal from the personal values that underpin our own private goals.
- *Integrity-* refusing to dissociate public actions from private values in order to protect our right to self-determination.

Torn by these competing forces, people can use language to manifest or dispel them, and in so doing reposition themselves in a *dilemmatic space*. Language can be used to make dilemmas someone else's problem, thus making them seem physically more distant. This can be seen in Kannen and Acker's (2008) study of the '*pedagogic silence*' concerning dilemmas of racial diversity prevalent in mono-ethnic classrooms. The issue had effectively been relocated elsewhere and made someone else's responsibility through the local definitions of race that were circulated. Honig uses the metaphor of 'home' to describe this sort of ideological displacement activity. She argues that, although comforting to those that build them, 'homes' are anti-ethical because they allow people to block out conflicted situations for which they, as members of a democratic society, have a responsibility to manage.

Fransson and Grannas (2013) cite the 'easy fix whims' of standardised educational policy as an example of how difference and conflict are removed as relevant factors in schooling. Instead, it could be argued, teachers are seduced by '*...the temptation to revert to sameness as a proxy for equity*' (Miletta 2005, p.87).

The implication of Honig's argument is that schools as '*homes*' leave children ill equipped to survive in a democratic society that is, ideologically speaking, continually at war with itself. Far from being impediments to learning, dilemmas concerning the status of knowledge may in fact be central to achieving education's wider societal function.

2.6 Implications

There are three key contrasts between these attempts at conceptualisation and the initial reflections on teaching dilemmas summarised in Chapter One.

2.6.1 Dilemmas are not aberrations but are intrinsic to social life

First is the notion that dilemmas are not critical incidents signalling a breakdown in communication, but instead comprise the natural order of social interaction. Knowledge, according to this argument, is riven by competing truth claims whose status must be recognised and negotiated (or sidestepped) in the course of our everyday conduct. Given this, it is the clarity of the curriculum and not the turbulence of teaching dilemmas that is the aberration. School life is a specialised form of 'home', built to satisfy a yearning for certainty in the midst of a world where consensus is often an unattainable ideal. This epistemological neediness is not, however, the sole preserve of classroom culture- it derives from a wider existential crisis, one Richard Bernstein (1983) refers to as the Cartesian anxiety.

The anxiety is best put as a dilemma: either we have a fixed and stable foundation for knowledge, an Archimedean point where knowledge starts, is grounded and rests, or we cannot escape some form of darkness. (Varela et al. 1991, p.140)

Cartesian anxiety finds its echo in Lampert's (1985) suggestion that the problematic status of dilemmas is an artefact of society's belief that there is necessarily '*a solution for every problem*'. From her perspective, teaching dilemmas are reflective of, rather than constitutive of, long standing tensions in

how cultural constructs like ‘truth’ and ‘knowledge’ are defined. Educational policy is, therefore, unlikely to be the originator of teaching dilemmas as suggested in Chapter One. Instead, policy may simply be a conduit for society’s fundamental ambivalence concerning the extent to which the world can be known, giving it form so it can be reproduced through schooling. Indeed, the types of intellectual dishonesty reported in the more liberal educational climate of twenty years ago (e.g. Edwards & Mercer 1987) bear striking resemblance to those associated with today’s neo-liberal audit culture (e.g. Coffey et al 2011; Berliner 2011). This suggests the mechanisms underlying dilemmas extend beyond the transitory effects of party politics and trends in educational policy. Teaching dilemmas may be better understood as a sub-class of a wider phenomenon, perhaps concerning cleavages in the way language has evolved across civilisations as a tool to organise and represent knowledge.

2.6.2 Intellectual dishonesty is intrinsic to communication

The second contrast concerns the accusation that educational practice is marred at all levels by intellectual dishonesty- the notion that people say one thing but mean another. Several of the above authors suggest that this ‘double dealing’ is an unavoidable aspect of communication and is intrinsic to the language system itself. People build ‘homes’ as a shelter from Cartesian anxiety but, as Berlak and Berlak observed, the symbolic ‘bricks’ they use contain seeds of discord because they always mean something other than that intended. People, therefore, are doomed to oscillate between two irreconcilable poles in their interactions- achieving clarity at the expense of other perspectives they know to be relevant (order) or acknowledging that no definitive interpretation of a situation is ever possible (chaos). In this sense, intellectual dishonesty is more a linguistic coping mechanism than it is a wilful deception.

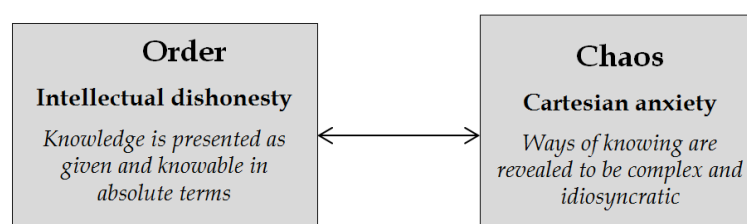


Figure 2 Oscillation between the poles of Cartesian anxiety and intellectual dishonesty

2.6.3 Dilemmas may not be ontologically real

The third contrast lies in the assumed relationship between teachers and dilemmas. In Chapter One it was posited that teachers were essentially passive victims, reacting to events that lay outside of their control. Some of the above authors argue to the contrary, suggesting that dilemmas are actively constructed by individuals (Jaworski 1994) or even originate within the person (Lampert 1985). Rather than individuals choosing between alternatives, multiple 'me' positions that make up the divided self may each favour a different response to a given situation (Berlak and Berlak 1981). This suggests that, to an extent, teachers construct the dilemmas in which they find themselves entangled. If true, this calls into question the earlier assumption that dilemmas are inevitable and uncontrollable.

2.6.4 The teacher's dilemma as a sub type of interpretive dilemma

In sum, the above sources suggest that *teaching dilemmas* may be a sub-category of a broader class of phenomena that might be referred to as *interpretive dilemmas*. In other words, dilemmas occur when incompatible interpretations of a situation each appear to express 'truthful knowledge' of that situation. The term interpretive dilemma better reflects the central role that language and social interaction have in the genesis and enactment of dilemmas both interpersonally and intrapersonally (Berlak and Berlak 1981; Edwards & Mercer 1987; Jaworski 1994). Edwards and Mercer rejected purely *psychological* accounts of development (in this case Piagetian) that treat the person as separable from the wider social context. Instead they argued for an analysis of classroom situations that integrates their *sociological, psychological, anthropological* and *linguistic* dimensions (Ibid, p.7).

The analysis now turns to research into teaching dilemmas in order to examine the empirical basis for the inferences made thus far.

Chapter 3 How teachers interpret and respond to dilemmas

This chapter and the one that follows examine empirical research into how dilemmas are interpreted and responded to by teachers and students. The aim is to extend what has been, up until this point, a primarily theoretical discussion.

3.1. Helsing's (2007) literature review of teaching dilemmas

Helsing's (2007) paper, although making no claims to being a systematic review, provides a summary of the different ways that dilemmas and uncertainty are experienced by teachers in schools. This paper concludes that, to a degree, teaching dilemmas are facilitated by the assessment culture of schooling. This is because summative tests identify the ends but not the means of learning in school. Hence teachers are torn between the sorts of irreconcilable pulls described in the previous two chapters, specifically

- *challenging without defeating students;*
- *evaluating without discouraging;*
- *guaranteeing academic achievement without constraining individuality.*

However, Helsing makes the point that assessment systems are not deterministic in their effect- they make dilemmas probable but not inevitable. For example, she found that students can attach '*additional meanings*' to teachers' actions in ways that are highly idiosyncratic and unpredictable. Teachers' well intended encouragement will motivate some students but may be misinterpreted by others as a subtle form of criticism. Hence, although dilemmas may originate at the level of the state and its accountability systems, the way they are realised in classrooms is determined by a complex mix of mood, psychology and institutional culture on the ground. In other words, the same dilemma created at policy level may be reformulated quite differently and in ways that are hard to predict across classrooms. Indeed Helsing's review suggests that whilst some teachers view dilemmas as something to be

avoided, others perceive them as opportunities for development. Table 1, below, summarises her findings.

	Dilemmas seen as assets to be managed	Dilemmas seen as liabilities to be minimised
Strategy	Dilemma management: <ul style="list-style-type: none"> • <i>Balancing</i> (both/ and)- upholding competing teacher and student interpretations as equally valid • <i>Alternating</i> (either/ or)- moving between teacher and student interpretations to explore their relative merits. • <i>Synthesis</i>- revising one's commitments in the light of student interpretations 	Dilemma minimisation <ul style="list-style-type: none"> • Following bureaucratic rules, regulations, policies and procedures • Teaching approaches that minimise emotional commitment and risk • Attributing academic failure to students and their home environment • Denial
Effect	<i>Positive</i> - affords opportunity to extend expertise through experimentation. Reasserts sense of agency. <i>Negative</i> - Risks obscuring learning necessary for exam success. Time consuming.	<i>Positive</i> - removes uncertainty and protects against feelings of anxiety, and burnout. <i>Negative</i> - can lead to guilt and feelings of reduced self-efficacy.

Table 1 Opposing views on the nature and value of teaching dilemmas (taken from Helsing 2007)

Some teachers choose to minimise dilemmas and do so largely through recourse to accountability systems. For these teachers, policies, curricula, professional standards and the like provide normative standards that promote transparency and predictability in classroom interactions. This is redolent of Honig's (1996) notion of 'home' and the use of language to distance the implications of dilemmas. This stability is, however, won at the cost of guilt and reduced self efficacy that accrue from intellectual dishonesty.

For other teachers, dilemmas are assets that yield an increased sense of efficacy and professional expertise.

Uncertainties become the means by which we may see beyond what we think we know.
(p.1322)

This perspective is in sympathy with Lampert's (1985) claim that dilemma management is a mechanism for the development of a professional identity. They are a means by which the world can be perceived in ways that are

increasingly sophisticated and nuanced. Indeed, frequent reference has been made in recent years to more formalised use of dilemmas as tools for professional learning, including:

- *ethical dilemmas* (Shapira-Lishchinsky 2011);
- *dilemmas in teaching scientific inquiry* (Newman et al 2004) and
- *dilemmas in early years practice* (Kevser 2012)

In addition, retrospective analysis of dilemmas encountered by student teachers has been used as a means to assess and refine their evolving beliefs about teaching practice (Talanquer et al 2007). Nevertheless, there is again there a cost to be met. Managing dilemmas makes teachers vulnerable to Cartesian anxiety and the fear that students' progress will be prejudiced in so doing.

3.2 Alternating, synthesising and dilemma minimisation

However, the distinction Helsing draws between minimisation and management of dilemmas may not as be clear-cut as it first seems. There is evidence to suggest that two of the dilemma management strategies she proposes- *alternating* (switching between conflicting viewpoints) and *synthesising* (amalgamating conflicting viewpoints within a single overarching concept)- can also serve as means to minimise dilemmas.

Williams and Wilson (2012) provide an example of how this works in practice. The Australian middle school described in their study sought to incorporate child-centred reforms within their 'traditional' modes of teaching practice. This is an example of resolving a dilemma through *synthesis*- teachers modify their practice in the light of the perceived needs of students. In practice, however, the teachers *segregated* these practices and alternated between the two, thus resisting the initiative and preserving the status quo. Traditional teacher-led instruction was simply interspersed with intervals of lower status student led inquiry. Yates and Holt (2009) describe a similar attempt at reform of an Australian middle school that was derailed in a slightly different way. In this study a separate section of the school was allocated to an initiative where

the established transmission model of teaching was periodically suspended, so allowing for a more personal, responsive mode of practice. This, therefore, was an attempt at managing a dilemma through alternation. The hope expressed in 'Our Mission' was that student perspectives would predominate in these new lessons and so reduce high drop-out rates in this age group. Yates and Holt observed, however, that although teachers thought they were managing the 'traditional versus pupil centred' dilemma, they were unknowingly continuing to minimise it. Instead of alternating between student lead and teacher directed modes of practice, a synthesis of the two was unknowingly created that preserved traditional power imbalances.

This element of their taken-for-granted values as part of that school did not appear to be visible to them. (Ibid, p.34)

3.3 Balancing strategies and dilemma management

Robertson (2005) suggests that such approaches to dilemma management reflect a false assumption that all problems, au fond, necessarily consist of polar opposites. He refers to this as an '*obstacle illusion*' leading to '*comparmentalised paradoxes*' - a sort of *do/or die* mentality that serves to fence off and preserve one's ideological status quo. Likewise, Bernstein (1983) argues that *absolutism* and *relativism* are poles both parasitic on the same Cartesian philosophy regarding the dualistic nature of knowledge, and that it is this foundational credo that must be replaced if tensions between the two are to be negotiated. *Balancing* is distinct from alternating and synthesising, therefore, because it casts dilemmas as the natural order within a *dialogic* conception of the world, not crises to be overcome in a Cartesian world.

"Both/and" is not a mere wavering between two mutually exclusive possibilities, each of which is in itself logical and consistent, thus insuring the further possibility of truth....Bakhtin's answer to the question of primacy is a reasoned consequence of dialogism's fundamental a priori that nothing is in itself. Existence is sobytie sobytiya, the event of co-being. (Holquist 1990, p.41)

In a Bakhtinian conception of the world, balancing (*both/and*) approaches to interpretive dilemmas have pedagogic value because they allow children to hold in mind '*mutually exclusive possibilities*' for meaning and so begin to

understand the interconnected properties of things- that *nothing is in itself* . Here there is no stable law of nature that can be used to justify universal *denotation* of meaning- only competing *connotations* distributed in parallel across social contexts, but treated within each *as if they were denotations*. If the former system of communication is thought of as the epistemological basis for *progress* in acquiring standardised curricular content, then the latter serves to explain how full *understanding* of that content is achieved. The dilemma facing schooling, as has been said, is that it must achieve *both/and*, not *either/ or*. Helsing's notion of balancing seems key to addressing this pedagogic knot.

3.4. Implications for teaching practice addressed in this thesis

3.4.1. *The value of dilemma management in principle*

The yearning for home, the quest for safety, a home, a "barred room" a "womb," leaves people unprepared for "surviving in a world with other peoples," unprepared for conflict. (Honig 1996, p.267)

Helsing's observation that dilemmas can have a beneficial effect on teacher's own learning, allowing them to see beyond what they know, is in sympathy with Honig's notion of 'home' as anti-ethical. If one takes social life as dialogic in form- necessarily stratified and conflicted- then it follows that schools have a responsibility to reflect this reality and prepare children for it. Central to this is the notion of meanings as 'double voiced'- that language always says something other than that intended by the utterer. It is in revealing these mutual differences that dilemma management has educational value, allowing us to '*see beyond what we know*'.

3.4.2 *The impossibility of dilemma management in practice*

Helsing suggests that teachers are, to an extent, active in the way that these tensions are played out in classrooms. They use their professional judgement to assess a complex array of contingencies (emotions, needs, sanctions) in order to choose between strategies of dilemma management or minimisation. Yet this deliberate mode of self control is limited by two factors. First, teachers' perception of themselves and the nature of the decisions that they make may differ from those of others present in the same situation. One might personally

experience a dilemma as being managed when, seen from a different viewpoint, one is actually minimising it. Hence, as Honig (1996) suggests, dilemmas may be better thought of as a space in which viewpoints change depending on one's ideological position.

A second limitation is teachers' inability to manage complexity even if they were indeed able to objectively perceive its full implications. The idea that a single teacher can simultaneously register and balance multiple conflicting interpretations of a situation dynamically across an entire class is clearly unworkable. Faced with overwhelming complexity in classrooms, practitioners are prone to resort to defensive (i.e. directive) teaching in order to cope (Garrison & Bromley 2004). Hence, although dilemma management may theoretically serve as a tool for professional development, it is one that faces considerable practical challenges in its day to day application.

3.4.3 Offloading the teacher's dilemma onto students as a pedagogic strategy

A solution to this seemingly intractable problem may lie in giving students themselves responsibility for the management of dilemmas. In other words, if *teaching dilemmas* are potential vehicles for teacher learning then why not pass these benefits onto pupils in the form of a pedagogy designed to elicit *interpretive dilemmas*?

In order to achieve this, however, teachers would need to know in advance how their dilemmatic materials will be perceived and experienced by students. Will a dilemma identified and planned for by the teacher be responded to as such by students? The experience of my own critical incident suggests not. In that case it was myself, not the students, who felt pressured to make a difficult choice. Indeed I saw no evidence that the students were aware a dilemma had ever existed- they simply waited for me to provide them with an answer. Hence, the final chapter is given over to a small scale systematic review of qualitative studies that compare teacher and student experiences of the same dilemmatic situation. The aim is to explore the theoretical and methodological implications of designing interpretive dilemmas as a pedagogic strategy.

Chapter 4 Comparing how dilemmatic situations are experienced by teachers and students

4.1 Outline of review process

The methodology for this small scale review is an adaptation of the procedure for meta-ethnography as exemplified by Britten et al 2002. This follows seven steps originally formulated by Noblit and Hare (1988):

1. *Getting started*
2. *Deciding what is relevant to the initial interest*
3. *Reading the studies*
4. *Determining how the studies are related*
5. *Translating the studies into one another*
6. *Synthesising translations*
7. *Expressing the synthesis*

Britten et al (2002) acknowledge, but do not address, the debate as to how qualitative studies are first located prior to synthesis. Therefore, the second step of their methodology has been adapted to include the development of search terms (Step 2) in line with Harden and Thomas's (2005) integrated method for synthesising both qualitative and quantitative studies.

4.2 Getting started

The discussion of teaching dilemmas, above, resulted in the following question that forms the focus of the review:

Do students and teachers differ in terms of how they respond to interpretive dilemmas?

4.3 Deciding what is relevant

Relevant studies should provide data on dilemmas that occur in similar circumstances to the critical incident which began the thesis. Included studies are therefore those where:

- The focus is a learning situation where students' interpretations of a task are compared to those of the teacher/researcher.

- The situation described is specifically referred to as a *paradox, dilemma, knot* or *ambiguous*.
- The dilemma concerns issues related to assessment and evaluation of learning. Studies focused on other dilemmas, e.g. those relating to ethnic diversity or the environment were not considered relevant.
- The context of the research is a mainstream school classroom, as opposed to a special school, higher education institution or further education college.
- Publication was recent (within the last ten years).
- Findings are derived from observational field notes and transcriptions of recorded classroom activity. Studies that rely primarily upon questionnaires or interview methods, for example, were not included.

Relevant studies were sought through two electronic databases- ERIC and Web of Knowledge (WOK)- using the following terms:

(Dilemma OR knot OR paradox OR ambiguity) AND (student OR pupil OR learn OR school OR classroom OR teach*)*

This yielded a pool of (just) six relevant studies that were included in the review.

4.4 Reading the studies

Table 2 maps out the included studies under the following headings:

- *Details*- Author, date, sample, context for the study.
- *Research design*- How research questions and methods are linked.
- *Conceptualisation*- How the authors conceptualise dilemmas.
- *Enactment*- An example of a dilemma described in the paper
- *Conclusions*- properties of dilemmas that are inferred.

Details	Research design	Conceptualisation	Enactment	Conclusions
<p>Tan & Wong 2012</p> <p>Where: Singapore</p> <p>Age group: Grade 6</p> <p>Context: Reform of science favouring open inquiry.</p>	<p>This is a case study, carried out by a university research team and centred on the 'micro-analysis' of events in a single classroom. The authors claim this approach goes some way to countering the subjectivity of teachers' retrospective accounts of dilemmas. Multiple methods were used to provide both policy and practice perspectives on the phenomenon, including video, field notes, curriculum documents and lesson plans.</p>	<p>Singapore education system traditionally favours authoritative approach to teaching that treats scientific theories as facts to be learned in preparation for high stakes tests. The reforms introduced dialogic pedagogies that emphasise how and why theories are proven. This shift leads to a misalignment of beliefs (authoritative) and role (dialogic) in teachers. To cope, teachers switch from one to the other.</p>	<p>The children were asked to make a paper 'jumping toy' powered by rubber bands to test the theory of conservation of energy. However, one group found that the height their toy reached <i>decreased</i> with increasing number of bands used. After a brief <i>dialogic</i> exchange where possible reasons for the anomaly were discussed (e.g. damage) the teacher switched to an <i>authoritative</i> mode and asked the students to repeat the experiment until the results complied with the theory.</p>	<p>The teacher's commitment to the testing culture led to a superficial engagement with the reforms. Inquiry was framed as a means to endorse knowledge claims rather than test them.</p>
<p>Brodie 2010</p> <p>Where: South Africa</p> <p>Age group: Grade 10</p> <p>Context: Reform of maths favouring knowledge as contested rather than given.</p>	<p>This is a comparative case study carried out in the classrooms of two reform-minded maths teachers. The intention was to show how 'press moves', a type of teacher prompt encouraged by the reform, can have unpredictable effects depending on the norms for conduct in each setting. However, the study also identifies similarities in the ways dilemmas were enacted that may be generalizable across contexts. Methods used included video recordings of lessons and interviews with teachers and learners.</p>	<p>Dilemmas are seen as endemic to maths teaching. However, emphasis on meaning making and justification requires a change in teachers' talk away from eliciting right answers to pressing students to explain and elaborate their reasoning, even when their response is correct. This change in culture is problematic for children because they assume probing implies their response is wrong. The change is also problematic for teachers because they are likely to hear what they want to hear rather than pay attention to what is actually said.</p>	<p>The students are asked if the expression 'x squared + 1' can ever equal 0 if x is a real number. The teacher expects some of the students to wrongly conclude that '+1' element means it can never equal zero. Hence when two pupils suggest the equation cannot equal zero because '<i>it always has a positive value</i>' he assumes this is the case. However the video transcript indicates the students understood that 'x squared + 1' needed to be considered as a whole and intuitively knew it could not equal zero. Hence the teacher's <i>presses for meaning</i> did not address the central problem and became <i>eliciting</i>.</p>	<p>The teacher's expectation led him to assume the word '<i>value</i>' had been misinterpreted despite clear evidence from the students that this was not the case. The author quotes Lampert in suggesting that teachers' practice should allow for contradictory possibilities for interpretation.</p>

Table 2 Map of studies included in the review.

Details	Research design	Conceptualisation	Enactment	Conclusions
<p>Baxter & Williams 2010</p> <p>Where: USA</p> <p>Age group: Middle school</p> <p>Context: Constructivist reform of maths teaching.</p>	<p><i>The data reported in the paper were collected in the course of a five year study of a maths intervention– the aim being to demonstrate the feasibility of the program in fostering mathematical reasoning. The effect of the intervention was researched in multiple sites, with each case characterised ethnographically. Documentation visits to the sites involved videoed lesson observations; pre and post lesson teacher interviews; analysis of lesson plans; maps of classroom spaces; field notes. The stated purpose of the video data was to supplement the field notes, not the other way round.</i></p>	<p>The dilemma of telling</p> <p>Telling students that their inquiries are flawed risks limiting their understanding of the concept under investigation. Allowing them to struggle reduces the teachers' efficacy and allows misconceptions to become established. Teachers are theorised to manage this dilemma through two types of 'judicious telling':</p> <p>Social scaffolding– encouraging students to interact in certain ways, e.g. challenge, ask, explain.</p> <p>Analytic scaffolding– encouraging students to adjust their understanding of the concept itself so it complies with the required understanding.</p>	<p>A teacher was modelling a visual method of converting fractions to decimals using shaded squares on a diagram. The task was designed so as to encourage different approaches, e.g. assigning a % to each square, or using total squares shaded. The students were then asked to demonstrate conversions to the rest of the class. However they frequently opted for cumbersome but valid methods of their own. The teacher prompted the students to his preferred strategy despite the utility of the students' own approaches to the task.</p>	<p>Social scaffolding is a way of inculcating classroom norms. It is suggested that instead of open inquiry the teacher was the '<i>primary authority</i>' despite his intentions to the contrary.</p>
<p>Barwell 2005</p> <p>Where: England</p> <p>Age group: Year 5</p> <p>Context: The National Numeracy Strategy (NNS).</p>	<p><i>This paper applies the principles of discourse analysis to micro-extracts of recorded classroom activity. The rationale for this approach is that close analysis of turn taking in recorded discussions shows how educational processes, including dilemmas, are constructed by teachers and students through their social practices. The aim is to establish how discourse is deployed as a resource that enables people to coordinate their actions. Although the wider policy context of the study is described, there are no data as to setting, character narratives and first hand accounts as one might find in methodology guided by the principles of ethnography.</i></p>	<p>Two forms of register characterise classroom discourse:</p> <p>Formal register– words have explicit meanings that generalise across all contexts. These are laid out in a glossary produced by the NNS. Emphasis is on <i>acquiring</i> meanings passively.</p> <p>Discursive register– recognises that the mathematics community is not homogenous and that words can have different meanings depending on context (e.g. school; university). Emphasis is on <i>making meaning</i> through active negotiation. This creates a dilemma in that discursive register leads to violation of the dictionary privileged by the formal register, giving the impression of 'sloppiness'.</p>	<p>The teacher used flat plastic shapes to check knowledge of 2D shapes. She pointed out that the shapes were not totally flat and therefore were technically 3D. The children recognised the potential for deviant choices and labelled the circle a cylinder and so forth. One of the students took this further and suggested that a line is not a 1D shape—it is a rectangle 'shaded in'.</p> <p>The teacher and the students enjoyed the joke for a short while before the teacher ended the episode with '<i>it's meant to be flat</i>'.</p>	<p>The children learned that the term '<i>dimension</i>' has different connotations that are equally valid depending on context. A shape referred to as 2D would be recognised as 3D in other contexts.</p>

Details	Research design	Conceptualisation	Enactment	Conclusions
<p>Vansledright 2002</p> <p>Where: USA</p> <p>Age group: 5th Grade</p> <p>Context: Reform of history teaching – more emphasis on student led inquiry. Teacher is also researcher.</p>	<p>The paper reports on a four month study designed as a form of practitioner inquiry. The author was, at the time, an associate professor of Curriculum and Instruction, but carried out the research whilst acting as a teacher in a public school. This places the study somewhere between case study and action research. The former is suggested by the multiple methods used to report on a specific case of history teaching (lesson plans; video recordings; field notes). The latter is suggested by the iterative nature of the research – the researcher-practitioner who develops and refines theory through praxis.</p>	<p>The interpretive paradox</p> <p>The legitimacy of historical accounts rests on how faithful they are to 'real' facts. Yet these facts are themselves the products of interpretation. This paradox leads to a pedagogic dilemma. Facts that are clear and consistent encourage arguments that are compliant with high stakes tests but discourage attempts at interpretation. Texts are treated as facts – this is the referential illusion. Facts that are open to question encourage active interpretation. However, sometimes students' hypotheses exceed the limits of interpretation.</p>	<p>The students were given conflicting accounts of an incident referred to as the <i>Jamestown Starving Time</i> and asked to explain the events described. Prompts were given as to how the inquiry should be structured. To begin with, few of the student groups referred to the sources, instead preferring to guess. When again directed to the sources the students selected data to defend their initial guesses, ignoring disconfirming evidence in the process. When the conflicting nature of the evidence was pointed out to the students, they concluded that the sources had lied. 'Naïve trust' was replaced by 'generalised suspicion'.</p>	<p>Children learn from the exam system to treat texts as a transcription of reality. This epistemological stance is resistant to change even in the light of concrete evidence that challenges this belief. Undermining this ideology can lead to 'intellectual drowning' – an inability to marry beliefs with available evidence.</p>
<p>Davis & Peters 2012</p> <p>Where: NZ</p> <p>Age group: Early years</p> <p>Context: Teaching and Learning Research initiative</p>	<p>This paper reports data from two projects, each a collaboration between researchers and practising teachers. Teachers were supported in researching their own practice as a form of case study. Methods included: learning stories; video clips; work samples; parents' narratives. The aim of each case study was to enable the teacher concerned to understand the meanings that others (children, parents) attach to their practices. The researchers used a form of grounded theorising to develop concepts common across these different cases.</p>	<p>Teachers try to identify and respond to children's 'working theories' but tend to 'hijack' these exchanges, turning what is taken to be a child driven activity into an adult directed activity. A perceptual gap between teacher and child creates a dilemma in that probing children's understanding to some extent involves structuring that understanding.</p>	<p>A child explains a drawing she has made of a bee hive. She is describing how it contains a '<i>machine</i>' that makes honey and identifies it as a <i>factory</i>. Another adult joins the conversation and introduces a counting activity, asking the child how many bees make up the family that lives in the <i>house</i>. The child's responses in this exchange are markedly shorter than before.</p>	<p>Observed behaviours are not objective indexes of learning – their meaning is always interpreted. Collaborative inquiry is posited as a means by which practitioners can transcend their own perceptions and see '<i>what is really there</i>'.</p>

4.5 Determining how the studies are related

Through a process of constant comparison, key concepts common to all the studies were formulated that address the review questions. The five key concepts identified in Table 3 are: *climate*; *disposition*; *frame*; *interpretation* and; *perception*.

Knowledge climate	<p>Knowledge was taken to be:</p> <ul style="list-style-type: none"> • <i>constructed</i> by learners; • <i>given</i> as facts to be learned; or • <i>both</i> constructed and given. <p>The latter climate typified settings where constructivist reforms were perceived to be in conflict with pressure from high stakes tests.</p>
Disposition	Refers to the inclination of the teacher concerned to <i>manage</i> or <i>minimise</i> dilemmas. This is suggested in the way the learning activity was planned or teachers' comments at interview.
Frame	Refers to teachers' assumptions as to the flexibility of meaning (e.g. of words, concepts, artefacts) that are signalled when dilemmas occur. Frame is <i>open</i> if multiple meanings are recognised; <i>closed</i> if a single interpretation is privileged.
Interpretation	Concerns how teachers and students compared in terms of their interpretation of tasks. This can be <i>shared</i> or <i>different</i> .
Perception	Refers to the propensity of teachers and students to ignore aspects of a situation they assumed to be problematic or irrelevant. This can be <i>shared</i> or <i>different</i> .

Table 3 Key concepts identified in the review

4.6 Translating the studies into one another

A grid was created (Table 4) to map how these key concepts are expressed in each of the studies. Britten et al (2002) emphasise the need to preserve the original terminology used to allow the reader to judge the extent to which the key concepts for each column correspond to the concepts identified in each of the primary studies. Hence direct quotes from the primary studies have been inserted into the table.

First order interpretations					
	Climate	Disposition	Interpretation	Frame	Perception
Tan & Wong 2012	Both- This new emphasis on science inquiry is not unproblematic since the Singaporean science classroom thrives on efficient curriculum delivery p.198	Min- Lynn was more concerned with students learning the content... than learning the actual inquiry science process. p.216	Diff- this interactive-dialogic mode opened up other possibilities in terms of scientific explanations that the teacher may not have been ready for p.213	Closed- ... while Lynn engaged the students in a dialogue she maintained her authority as the arbiter of knowledge p.213	Diff- ... she did not view the 'critical incident' as a learning opportunity since this was not a teaching purpose she planned for the lesson. p.215
Brodie 2010	Constructed- teachers showed that their understandings of mathematical knowledge resonated with those of reforms... p.34	Man- Mr Peters was more comfortable in pressing learners' thinking... I use an example from his class to illustrate this dilemma p.35	Shared- Tobogo's and Fred's contributions show they were working with the [accepted] meaning of the expression. p.45	Closed- In planning the task, Mr Peters expected predominantly empirical reasoning from learners. p.35	Diff- Mr Peters believed that if Fred could not produce an adequate justification, then he did not fully understand the concept. p.44
Baxter & William 2009	Constructed ... teachers used a curriculum firmly grounded in a reform-based vision of mathematics p.12	Man ... the teachers explained that multiple approaches can be used ... but they also knew that specific approaches would be useful to the students... p.24	Diff- When the students interpreted the [visual] task in different ways, Mr. Ruhig had to... take on the responsibility of explaining the method. p.20	Closed- ... the "visual" nature of the tasks was intended to encourage certain interpretations that Mr. Ruhig was eager to have students understand. p.20	Diff- He effectively privileged his desired strategy... this is not consistent with Mr. Ruhig's philosophy as gleaned from three years of classroom observations. p.21
Barwell 2005	Given- The [NNS] model of mathematical language is largely concerned with vocabulary, with words corresponding neatly with meanings. p.120	Man- The teacher's actions are in opposition to the official model of explaining meaning clearly and sorting out ambiguities. p.122-3	Shared- ... the laughter serves to mark the label as one possibly deviant choice, a sign of complicity between teacher and students. p.123	Open- ... ambiguity becomes a resource for the participants, which they use to probe the affordances of the term 'dimension'. p.124	Shared- The student has identified a crucial aspect of mathematical practice, namely that what is meant is rarely the same as what things 'look like'. p.123
Vansledright 2002	Both- I found it troublesome to ignore the interpretive paradox... But I continued to be haunted by the spectre of high stakes tests p.1108	Man- Managing the interpretive dilemma would entail inviting students to give up the idea that we could get to the "truth out there" p.1106	Diff- It is as though the students were saying, "If only they were to tell the truth, then we could get to what really happened." p.1105	Open- ... the way people write down their memories is coloured by their historical positions ... this needs to be taken into account in decisions about how to interpret evidence. p.1104	Diff- Table one's reading appeared more rooted in the available evidence.. the other groups appeared undaunted, preferring the intrigue of 'Percy the liar'. p.1102
Davis & Peters 2012	Both- the project explored how children develop working theories... the curriculum describes outcomes as knowledge p.172	Man... the practitioner researchers have opened windows into the challenges associated with embracing children's goals. p.173	Diff- Adults also hijack by offering activities they think will relate to the child's interest but respond only to superficial elements p.179	Closed- ... our data have provided examples of how well meaning adults can hijack and close down or divert the children's exploration. p. 177	Diff- Seen through this lens, even child centred approaches may be adult driven regarding what is picked up or made available p.179

Table 4 Map of key concepts as they appear in each of the studies.

4.7 Synthesising translations

This stage involves identifying relationships between the studies that are suggested by the translations contained in Table 4, above. What is apparent from these data is that the studies are not consistent with one another and therefore do not support the development of a '*line of argument*', as in Britten et al's (2002) example. Instead, the studies, taken together, are largely refutational and defy easy synthesis in the form of an overarching theory of dilemmas. Table 5 depicts how the six studies compare in terms of the key concepts *Knowledge Climate* and *Disposition*.

		Disposition	
		Manage dilemma	Minimise dilemma
Knowledge Climate	Knowledge constructed	Brodie Baxter & Williams	
	Knowledge as given	Barwell	
	Constructed & given	Davis & Peters Vansledright	Tan & Wong

Table 5 Synthesising translations concerning climate and disposition.

Disposition to manage dilemmas is not strongly associated with any of the three knowledge climates described in the six studies- it even occurs in contexts where knowledge is to be taken as *given* (Barwell 2005). By contrast, teachers may be inclined to minimise dilemmas despite reforms that seek to encourage more dialogic approaches to learning (Tan & Wong 2012). Knowledge climate may have influenced disposition in some cases but did not determine it across the board.

Of the studies where teachers were disposed to manage dilemmas, all apart from Barwell describe attempts to *accommodate* divergent student responses at the planning stage of an activity. These studies describe open ended tasks where dilemmas were *allowed for* rather than actively *planned for*. Only Vansledright sought to design a specific dilemma as a means to enhance a targeted aspect of student learning. He assembled conflicting first-person

accounts of the ‘starving time’ incident in a premeditated attempt to elicit student awareness of the ‘interpretative paradox’ of historical inquiry.

I could have begun with an exercise for which a resolution was less difficult because the evidence clearly privileged one interpretation over others. However, this would have worked against my goal of demonstrating the inconclusive nature of historical inquiry
(Vansledright 2002, p.1103)

Table 6 depicts how the six studies compare in terms of the key concepts *frame, interpretation, and perception*.

	Frame		Interpretation		Perception	
	Open	Closed	Shared	Diff	Shared	Diff
Tan & Wong		*		*		*
Brodie		*	*			*
Baxter & Williams		*		*		*
Barwell	*		*		*	
Vansled-right	*			*		*
Davis & Peters		*		*		*

Table 6 Synthesising translations concerning frame, interpretation and perception.

What is perhaps surprising is that *disposition* (teachers’ intentions) does not always match *frame* (how meanings are treated in practice). Davis and Peter’s, for example, describe early years practitioners committed to privileging children’s ‘working theories’ who go on to impose their interpretations of a situation onto the children. The example they give is of a child describing a beehive as a form of factory who is asked by a teacher to think of it as a house instead. In Baxter and Williams’ study, Mr. Ruhig perceives himself to be managing a dilemma associated with the conversion of fractions to percentages. In fact, the authors posit that he may inadvertently have minimised the dilemma through promoting his own ‘visual’ solution as the

authoritative choice. In both cases, despite claiming an *open disposition*, the teachers concerned applied a *closed frame* to interpretation when the dilemma manifested itself in the classroom.

A second surprising refutation is that relating to the connection between *interpretation* and *perception*. One might assume that, as with the Tan and Wong study, if teacher and student perceptions of the dilemmatic situation differ then so must the meanings they attach to it and vice versa. Indeed this is the case in Vansledright's study. This author predicted that conflicting historical accounts would lead to an *epistemological shift* on the part of the students and a realisation that historical accounts are *interpretations* of events, not *factual records*. That this did not happen is put down to differences in the way he and the students perceived and interpreted the materials. For Vansledright as a *trained historian*, contradictions signal inevitable differences in perspectives of honest witnesses and are the object of study. For students who inhabit the fact driven *culture of schooling*, these discrepancies are interpreted as mistakes or lies and so are not attended to. Here teacher and students occupy incompatible experiential worlds that prioritise different aspects of a situation for attention and so interpret it differently.

However, in the Brodie study, both students and teachers *shared the same interpretation* of the situation despite the fact that they *perceived events in very different ways*. Mr Peters seemed unable to see that the boys he questioned shared his interpretation of the algebraic expression being discussed. The authors of this study conclude that the teacher's framing of how meaning *should be* expressed distorted his ability to accurately perceive the meanings that *were* expressed by the students. In other words, the perceptual gap between teacher and student can lead to the construction of an interpretive dilemma when, in fact, none exists.

Barwell's (2005) study is unusual because the teacher's and students' interpretation and perception of the situation were both shared. The children are taken to inhabit a *school* culture of 'knowledge as given' which is mediated

through use of specialised vocabulary (plastic shapes are 2D). The *university* educated teacher, on the other hand, is aware that the interpretation of '*dimension*' varies according to context and, inadvertently, introduces a deviant interpretation into the conversation (plastic shapes are 3D). What transpires is the juxtaposing of competing meanings from these separate worlds for humorous effect. The students are allowed to insert 'wrong' interpretations of the plastic shapes into the discussion, the shared joke serving to signal a joint perception of the situation as a 'safe' place to do this. Jokes are understood as ephemeral in their effect- they rarely change how we act in the 'real' world.

The authorised version is, however, re-emphasised once the joke has been shared: 'it's meant to be flat'. (Ibid p.123)

Conflicting interpretations were brought into the open and expressed simultaneously, much as with Rita's compromise solution described in Lampert's (1985) study. In both instances, the effect was to contextualise and qualify the generalizability of interpretations promoted by the school curriculum. Interestingly it was not just symbols in the form of language that affected this shift in Barwell's study, but *language in conjunction with concrete symbols*, in this case plastic shapes.

Finally, as suggested by Helsing (2007), pupils vary amongst themselves in the way they interpret dilemmatic situations. In Vansledright's (2002) study Table One were able to detect the 'interpretive paradox' in the sources provided whilst the other groups were not. In Brodie's (2010) account of Mr Peter's algebra lesson, Tebego and Fred shared his interpretation of '*x squared + 1=0*' whilst their classmates did not. This suggests that the perceptual gap exists not just between teacher and children but also amongst the students themselves.

4.8 Implications for the theoretical framework developed in this thesis

4.8.1 *The ambivalent ontological status of interpretive dilemmas*

Although the review suggests that *knowledge climate, disposition, frame, interpretation* and *perception* are factors that are common to dilemmatic situations, they appear to combine in ways that are difficult to predict. Teachers may inhabit epistemological worlds that are qualitatively different from that of their pupils, leading them to interpret aspects of the environment in radically different ways (Barwell 2005). They may design dilemmas that are not visible to some of their students (Vansledright 2002) or perceive dilemmas where none exists (Brodie 2010). Teachers may identify themselves as someone who manages dilemmas when, in practice, they opt to minimise them (e.g. Davis & Peters 2012). Taken together, these observations call into question the ontological status of interpretive dilemmas.

A question that arises out of such an ongoing dialectic process is whether dilemmas are simply constructions or are real in some objective sense. Although one teacher might experience something as a dilemma it does not mean that other teachers in the same situation will experience it as a dilemma. (Fransson & Grannas 2013, p.8)

Regarding teaching dilemmas, Fransson and Grannas recruit Honig's (1996) notion of '*dilemmatic space*' as means to reconcile these two seemingly incompatible positions. First, teachers are positioned passively by the *structural dimensions* of the space- by the professional standards and inspection regimes that delineate their role. Second, teachers position themselves and others in a *relational dimension* according to the values they attribute to these structures. Faced with results in science experiments that break the canonical laws of conservation of energy (Tan & Wong 2012), a teacher can use the language of the curriculum to construct these results as a *mistake* (minimising) or one can use the language of scientific inquiry to make them the *starting point for inquiry* (managing). Whichever course of action is taken will have consequences for the beliefs and values by which the structural conditions are subsequently realised by students. In this way, teachers are conceived as simultaneously constructing the dilemmatic space and being constructed by it.

4.8.2 The dilemmatic space as an ecological system

Gresalfi et al's (2012) study of Problem Based Learning (PBL) in mathematics suggests that Fransson and Grannas's notion of a dilemmatic 'space' occupied by teachers also applies to the learning processes of students.

Project-based learning (PBL) generally refers to a curricular structure that involves groups of students working together to resolve some kind of complex dilemma by leveraging disciplinary understanding (Ibid, p.252)

Their study of PBL sought to explain why it might be that students in two parallel classes in the same school responded differently to dilemmas inherent in identical mathematical tasks. To this end, Gresalfi et al recruited Gibson's (1979) ecological psychology to model student activity as an interacting system. They characterise what they call the '*classroom ecology*' as comprising three interacting moments. *Affordances* are defined as the set of actions that are made possible given the structural composition of the designed learning environment, in this case the PBL tasks. The affordances that students realise in their activities are ultimately dependent both on their *effectivities* and their *dynamic intention* towards the structured situation. Effectivities are skills, including modes of perception, learned from previous experience that allow affordances to be recognised. However recognition of affordances does not, in itself, mean that they will be acted upon. This is determined by the dynamic intentions of individuals towards the designed pedagogy as they interact with it. In their study Gresalfi et al established that the social norms and values that prevailed in each classroom created different intentions towards the affordances of the PBL tasks.

There are striking similarities between Fransson and Grannas' (2013) model of the dilemmatic space with respect to teaching dilemmas, and the ecological metaphor developed by Gresalfi et al (2012) to explain students' management of dilemmas. In both cases, structural phenomena and social relations are dynamically related. The two conceptual frameworks have been combined in Figure 3, which shows the germ from which the domain theory is developed in later chapters of the thesis.

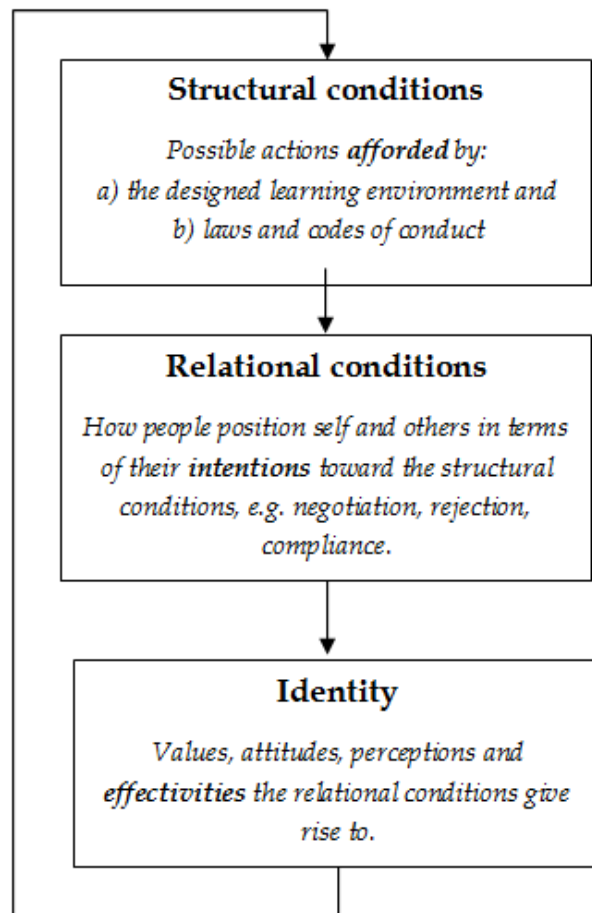


Figure 3 Interpretive dilemmas as an ecological space (based on Gresalfi et al (2012) and Fransson & Grannas (2013))

4.9 Implications for the methodology developed in this thesis

4.9.1 Methodological issues raised by the studies included in the review

Perhaps the most striking finding of the systematic review is the paucity of studies into teaching dilemmas that juxtapose teachers' and students' experiences of them. There may be a number of reasons for this, not least the fact that they are traditionally posited as *teaching* dilemmas and so may be seen as solely the concern of teachers, not students. It is also the case, however, that conducting research of this nature is itself fraught with dilemmas: to describe or intervene; to specify contexts or generalise across contexts; to separate researcher from researched or abandon the distinction. It may be, therefore, that such studies are often rejected for publication because of the difficulty in resolving these issues to the satisfaction of academic peer review.

A key issue facing any researcher wishing to intervene in a learning ecology is where they stand with regard to that setting in an epistemological sense. Tan and Wong question the objectivity of teachers' anecdotal accounts of their practice, suggesting that it is hard to separate fact from fiction in such studies. Their solution is a dualist separation of researcher and researched. As detached scientists, they are able to objectively ground their theorising of dilemmas in a systematic analysis of video transcripts and, hence, reach a 'true' account of them. However, there is an irony in their adoption of this stance. Tan and Wong question the absolutist treatment of knowledge in the Singaporean science curriculum. If, as one assumes, the researchers themselves are products of this system, then one can see its effects in their approach. In other words, though their methodological stance these researchers imported the ideology of learning they were researching into the design of the study.

If one cannot validly separate oneself from a context, then maybe it is only through direct participation that one can come to fully understand it. This is the stance taken by Vansledright, a university based researcher who literally joins together research and researched into a single *researcher-practitioner* role. His is an anti-dualist research design, based on pragmatist notions of praxis and phronesis- the idea that values and actions are interrelated and so should not be treated as separable for analytic purposes. The problem here, though, is one of egocentrism in the determining of those values. In action research, the definition of what constitutes a 'good action' is specific to the site and the people who work there. Vansledright's study is interventionist research masquerading as praxis because it serves values that are alien to the school and its students. One therefore has to question his reliability as a narrator of the events he reports.

'Self as separate from context' and *'self as context'* are therefore diametrically opposed, partial epistemological positions. Given this, one might see a university-practitioner research team as a workable compromise- a *balancing* of opposing perspectives a la Helsing. Here the interpretations of researchers and

of local actors are held in tension so that each party can speak to the other through the data. This is the ambition behind Davis and Peters' study. Here, the researchers aimed to help the practitioner inquirers distance themselves from their habitual practices and, in return, this experience would help the researchers gain new theoretical insights into how children, parents and teachers construct their understandings of one another. However, although seemingly democratic, this approach to research can sometimes conceal unequal power relations behind an expedient form of collegiality. If the researchers are there to support teachers in challenging their own preconceptions of practice, when does this guidance become direction? Similarly, on what ethical grounds do the researchers create cross-case themes from the individual case studies- aren't these simply secondary interpretations that are imposed onto the teachers' primary interpretations? A similar comment could be made about the ethnographic approach of Baxter and Williams in their feasibility study of a mathematics intervention programme. Do the narratives collected really reflect the teachers' lived experiences, or are they accounts of an intervention they had little control over or interest in?

Possibly the most significant dilemma facing a researcher wishing to design pedagogic materials is the connection between micro and macro dimensions of phenomena. If one grounds research questions in a generalised definition of a problem, as does Brodie, how is it possible to avoid confirmation bias when sampling and analysing specific examples of interaction? One can perhaps avoid this through a micro-analytic stance such as that taken by Barwell. Here the framework of discourse analysis is used to derive theories rooted solely in an analysis of turn taking decisions that are made moment by moment. But how are the boundaries of these episodes drawn? When do the dilemmas he analyses start and when do they stop? Whose 'voices' are being articulated in the situation and to what extent can these be generalised if at all? This raises a related dilemma concerning the primacy of some research methods over others. Should video '*close-ups*' be used to supplement the '*wide angle*' of ethnographic field notes, as in Baxter and William's study, or conversely should field notes

be recruited to flesh out the systematic analysis of transcripts as in Tan and Wong's study?

In light of the above challenges, it is not surprising to find ambivalence towards the use of theory across all six studies. Davis and Peters articulate this in the following terms:

Our focus was on the concrete particulars of a situation, not abstract universals, and yet at this intensely local focus it was possible to build theory about the situation being studied. (Davis and Peters 2012, p.172)

This is not to say that these studies are flawed in their conception or of poor quality. Rather they are expressions of the dilemmatic nature of this type of research. With classroom dilemmas, the *method* of research may inevitably be a mirror image of its *object*. If so, choice by the researcher will always result in loss.

4.9.2 Rapid prototyping as a methodology for the design and research of a dilemmatic pedagogy

All of the above mentioned methodological dilemmas apply to the problem addressed in this thesis. To purposefully stimulate interpretive dilemmas as a pedagogic strategy, one needs to establish a systematic connection between the designed materials and students' experience of them, something Hotam and Hadar (2013) describe as a '*black hole*' in our current understanding of learning processes.

How to increase effective education by narrowing the gap between what teachers would like to unpack in class and what students actually experience is a profound pedagogic question (Hotam & Hadar 2013, p.394)

In other words, it is not enough to design a pedagogy *intended* to stimulate a particular type of dilemma- one must study and understand the manner of its *reception* in the context of its use. Yet the assumption of dilemmas as an ecological phenomenon poses methodological challenges of the sort discussed above. If designs are real and have structure then they can be made subject to objective scientific analysis. However, if subjects' use of a design changes its meaning, how then is any form of experimental control or objectivity possible? Also, if the way a design is experienced is contingent to the dynamics of a

specific learning ecology, how can these effects be generalised to other contexts?

These epistemological questions may stem from the fact that science and design are qualitatively different methodologies that express different goals for, and assumptions about, complex learning environments (see Table 7, below). In making the case for ‘rapid prototyping’ in instructional research and development, Tripp and Bichelmeyer (1990) argued for a *balance* between the human-intensive focus of design and the technical rationality of scientific inquiry in order that one not be reduced to the other. It is to this approach that the thesis turns in Section Three in search of a resolution to the methodological challenges highlighted by the systematic review.

Science	Design
A single optimum solution is sought- research is a finite process	Solutions are uncountable in number- design process is endless
Standardised notions of cognition	Situated notions of cognition
Analysis precedes synthesis	Synthesis precedes analysis
Technical rationality- a testable hypothesis is developed through extensive front end analysis of the problem	Bounded rationality- rendering of the problem space is revealed only through use of the design
Prototypes based on the hypothesis are a relatively final form of the instructional system	Little commitment to initial prototypes which are treated as a starting point for inquiry
Efficacy of the prototype is established through objective testing	Efficacy of the design is subjective and depends on the value perspectives of researcher and user
Large sample size- pre, post tests	Small sample size- close observation of interaction
Dependent variables identified at the outset	Use of the design leads to discovery of new objectives
Outcome is a design that standardises instruction across all contexts	Outcome is a design that optimises instruction in specific contexts
Contradictory cases disconfirm the underlying theory	Contradictory cases elaborate the theory underpinning the design

Table 7 Differences between science and design (Tripp & Bichelmeyer 1990)

4.10 Next steps

Leshem and Trafford (2007) posit that any review of extant theory and research should go on to inform both the methodology and conceptual framework advanced in a thesis. This first section of the thesis has considered three problematics that form the focus of the three subsequent sections:

- **Conceptual problematic-** *how can dilemmas be modelled as a form of ecological space?* (Section 2)
- **Methodological problematic-** *how can science and design be kept in balance when researching these ecologies?* (Section 3)
- **Practice problematic-** *how can students' management of interpretive dilemmas be deployed as a pedagogic strategy?* (Sections 4 & 5)

The analysis now turns to the conceptual problematic. The following section concerns development of a *domain theory* that models interpretive dilemmas as an ecological phenomenon, prior to formalising a methodological approach for their research and design.

Section Two Domain theory

Summary of Section Two

Aims

Up to this point in the thesis, the term ‘interpretive dilemma’ has remained vague and underspecified. This section focuses on developing a domain theory of interpretive dilemmas, where domain theory is defined as follows

*A **domain theory** is the generalization of a problem analysis. A domain theory might be about users of interactive systems and how they learn to use and interact with the systems, or about the context of the system usage and how it influences the user and interaction. A domain theory is a means of understanding the world, not the design solution or procedure. (Obrenovic 2011, p.57)*

Research question

How can interpretive dilemmas be modelled in terms of their social, psychological and semiotic dimensions?

Overview of chapters

Chapter 5 Basil Bernstein’s theory of code as a means to understand why students do not share the teacher’s dilemma.

Chapter 6 Umberto Eco’s dialogic theory of the literary novel explains how interpretive dilemmas can be addressed to particular codes.

Chapter 7 Lev Vygostky’s method of double stimulation methodology as a means to understand how interpretive dilemmas can be restructured materially.

Chapter 8 Setting out the rationale by which the above perspectives have been integrated into the domain theory for the thesis.

Chapter 5 Why might students and teachers perceive interpretive dilemmas differently?

The relevance of Bernstein's theory lies in its modelling of a system whereby teachers and students, although sharing the same classroom space, come to differ in their experience of the interpretive dilemmas that occur within it.

5.1 The pedagogic device as an ideological system

In *Pedagogy, Symbolic Control and Identity* Basil Bernstein (2000) analyses how, and to an extent why, schooling operates as a tool for social reproduction. His analysis centres on an ideological system he refers to as the '*pedagogic device*'. The critical incident that forms the genesis of this thesis can be traced to each of the three rules by which this device operates.

5.1.1 Distributive rules & classification of symbol meaning

Bernstein drew on the semiotics of Ferdinand de Saussure to argue that linguistic symbols do not directly correspond to a material base (Davies 1995). Instead there is a 'gap' between the real world and the world that language presents to us. On this basis Bernstein (2000) posits that rather than a singular objective reality, education across all its forms (e.g. school, university) has as its focus many different worlds ranging from the *mundane* to the *transcendental*. In mundane worlds everyday experience constrains interpretation of a given symbol to conventional common sense meanings. These allow us to coordinate our actions and so act to preserve the existing social order. However, although mundane meanings appear to be constrained by concrete activity, they are never wholly restricted to it. The '*potential discursive gap*' between *what is* and *what is symbolised* creates the possibility of meanings that transcend 'common knowledge'. The gap is dangerous, therefore, because it makes new knowledge possible. The distributive rules ration autonomous control of symbol meaning to those trusted to accept and work within the established social order.

Any distribution of power will regulate the potential of this gap in its own interest, because the gap itself has the possibility of an alternative order, an alternative society and an alternative power relation. (Bernstein 2000, p.30)

Curricula legislate for the different ‘*voices*’ that a symbol can express across the various worlds that occupy the education hierarchy. The type of knowledge that can be voiced in each setting is determined by the degree to which students have been ‘*legitimately pedagogised*’ (Ibid, p.32). Bernstein refers to the example of schools versus universities as a crude but sufficient illustration of how this works in practice.

In modern society today, the control of the unthinkable lies essentially but not wholly in the upper reaches of the educational system...On the other hand the thinkable in modern complex societies is managed by secondary and primary school systems.
(Bernstein 2000, p.29)

The allocation of voices to settings is achieved through *classification*. The strength of the ‘*insulation*’ between categories created by classification is not uniform but varies so as to position people hierarchically. With some exceptions (e.g. nursery provision) the lower one descends, the stronger is the boundary drawn between the mundane and the transcendental. The implications of this can be seen in the critical incident for the thesis. The ‘*thinkable*’ meanings of ‘*snappishly*’ offered by the Year 6 students were mundane in that they comprised common sense, everyday interpretations. Yet *The Ghost of Thomas Kempe* is a fantasy novel in the genre of magic realism. ‘*Snappishly*’ could just as easily be taken to infer that James’ father is being turned into a creature of some sort by the ghost. School encourages the reproduction of common sense meaning rather than the production of fantastical, abstract meanings such as one might find in a university seminar group for example.

5.1.2 Recontextualising rules & framing of discourse

If distributive rules are structures that determine *voice*, recontextualisation rules legislate for the *messages* this voice can articulate in the course of pedagogic activity.

We can see that the distinctiveness of voice is a consequence of the relations between categories, whereas message is a consequence of the interactional practice within a context. (Bernstein 1990, p.19)

Recontextualising rules transform the knowledge allocated to schools into a communicable form- a '*pedagogic discourse*'. This is an amalgam of two subcomponent discourses (Bernstein 2000). The first, an *instructional discourse*, is geared to inculcating the skills and knowledge that have been distributed to a given group of students. This discourse, however, is subordinate to and embedded within a *regulative discourse* that delimits the expected roles that students and teachers will perform in order to acquire this knowledge. In effect, regulative discourse relays the moral system by which meanings that conflict with the classification rule are suppressed. Whereas *classification* is concerned with the exercise of *power* over allocation of knowledge, *framing* is the extent to which application of this 'knowledge-fragment' is subsequently *controlled* in classrooms. In classrooms that are strongly framed, the rules for legitimate communication are normative and routinised.

Again, this aspect of the device can be seen in the critical incident which began the thesis. The children were practicing a skill prioritised at Level 4- the ability to clarify word meanings. This constitutes *instructional* discourse in that it rehearses a technique the children are required to master. At the same time this discourse also had a *regulative* effect- it legislated for the types of readers these students were encouraged to become. Reciprocal teaching, amongst other things, encourages children to self-monitor the accuracy of their interpretations (Palincsar & Brown 1984). Although a legitimate objective for reading instruction, this impulse towards continual monitoring runs counter to more weakly framed conceptions of the reader, such as that advanced in reader-response theory (Rosenblatt 1998). Here monitoring is a facet of the reader's literary repertoire, not a moral imperative.

5.1.3 Evaluative rules & the shaping of consciousness

Evaluative rules measure the ability of students to reproduce the knowledge allocated to them, thus determining their pedagogised status. It is at this stage that the pedagogic device emerges as a '*ruler of consciousness*' (Bernstein 2000, p.36). Evaluative rules not only control the way the world is perceived by students but, more importantly, they serve to control the way they perceive

themselves. For example, evaluative rules equate *time* with *attainment*, meaning that maturation is punctuated by stages of that are ‘*wholly imaginary and arbitrary*’ (Ibid, p.35). The children in the critical incident, for instance, attended the ‘repair’ programme in question because they had made ‘*below average*’ progress and were ‘*at risk*’ of not achieving Level 4 in the forthcoming tests.

5.1.4 The purpose and operation of the device

Bernstein’s theory of the pedagogic device, summarised in Figure 4, is very much in sympathy with the ecological model of interpretive dilemmas developed at the end of the last chapter. It outlines how positioning in a *structure (voice)* gives rise to *relations (message)* that shape the *self (disposition)*.

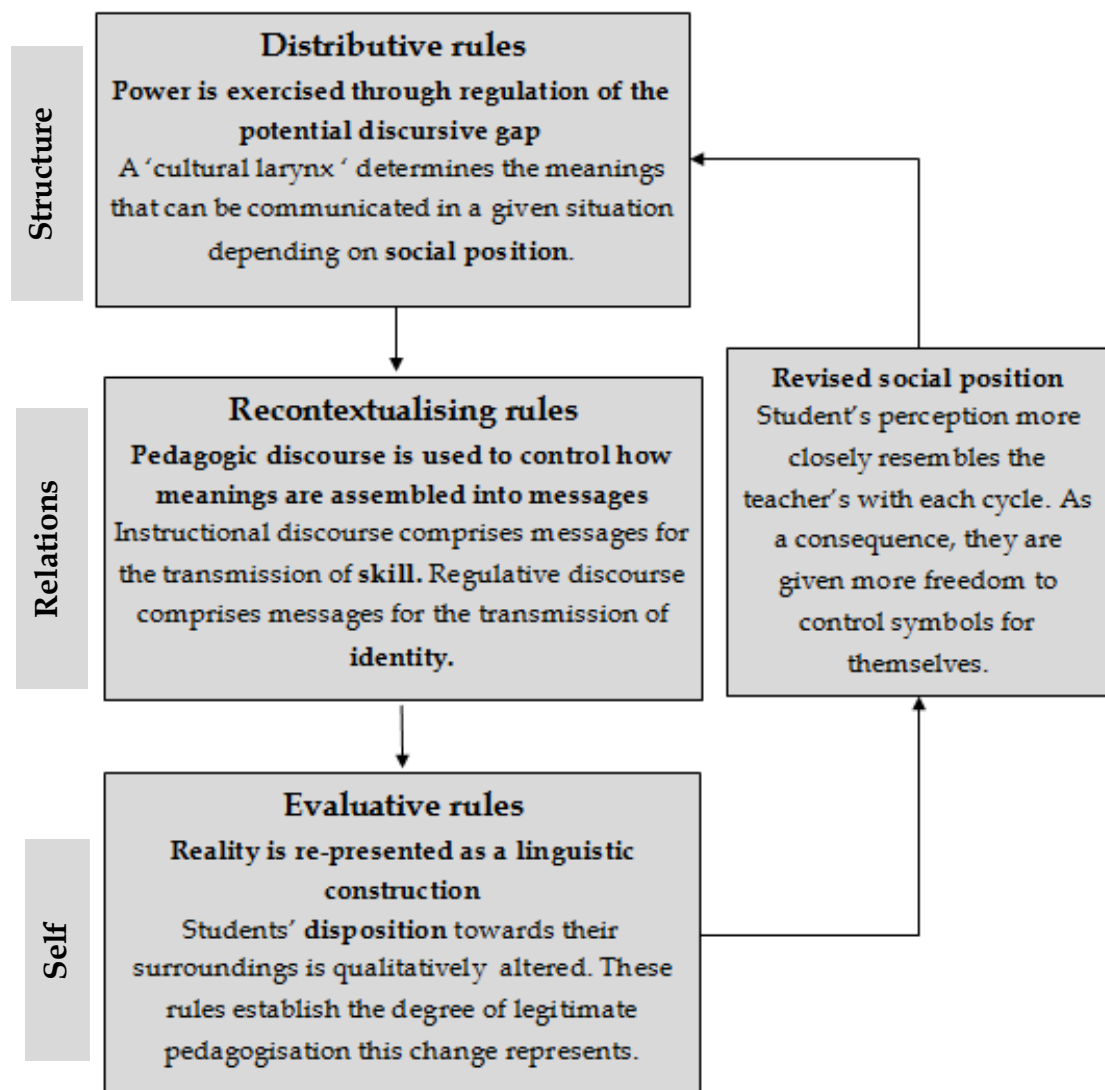


Figure 4 Bernstein's pedagogic device, showing how social position becomes disposition. (Based on Daniels 2012)

5.1.5 Why teachers perceive teaching dilemmas differently to students

A teacher is arguably the ultimate end product of the device. As '*legitimately pedagogised*' university educated individuals, teachers can perceive the cleavages and dilemmas intrinsic to voice and are aware of the moral implications of them- choosing to minimise or manage dilemmas as each situation requires. Students who occupy the lower reaches of the educational hierarchy only yet internalise the prevailing instructional and regulatory discourses that circulate there. A moral commitment to mundane meanings is inculcated that makes the transcendental possibilities of interpretation less visible to them. Students are therefore predisposed to 'screen out' dilemmatic situations that are clearly visible to their teachers.

Within the individual the insulation becomes a system of psychic defences against the possibility of the weakening of the insulation, which would reveal the suppressed contradictions cleavages and dilemmas. (Bernstein 2000, p.7)

Like the maths teacher in Barwell's (2005) study of teaching dilemmas, practitioners may recognise possible interpretations of a situation (e.g. that plastic shapes can be both 3D and 2D) that may not be apparent to children. Hence, teachers feel a pressure to manage and control situations that are not necessarily experienced as dilemmatic by their students.

However, although this explains the teacher-centric nature of interpretive dilemmas in classrooms- why it is they are referred to as *teaching dilemmas*- it does not account for differences in perception *amongst the students themselves*. In Vansledright's (2002) account of his history class, one group of children were able to perceive the 'interpretive paradox' he designed into his teaching materials, whilst the majority could not. Brodie's (2010) analysis of Mr Peter's algebra lesson suggests that two pupils shared his perception of the expression '*x squared +1=0*' whilst the rest of the class did not. If the pedagogic device were wholly deterministic in its effect as a ruler of consciousness then this would not be the case.

5.2 Why might students vary in the way they perceive dilemmatic situations?

5.2.1 Bernstein's interest in the relation between class and coding orientation

Before considering why it is children do not succumb in equal measure to the 'ruler of consciousness', it might be worth pausing to consider why Bernstein undertook the daunting task of conceptualising this problem. Whilst working as a practicing teacher, Bernstein found it was overwhelmingly children from working class families who underachieved at school (Christie 2007), a situation that persists to the present day. Geoff Whitty, Basil Bernstein's successor to the Chair of Sociology at the Institute of Education, recently described the English school system as persistently distinguished in international comparisons by its '*unusually long tail of underperformance*' populated predominantly by children from socially disadvantaged backgrounds, namely '*working class and certain minority ethnic communities*' (Whitty 2010, p.28). Bernstein's hypothesis was that differences in students' ability to perceive what was required of them at school (their coding orientation) stemmed less from their innate intelligence and more from the social class to which they and their family belonged. It was a desire to change this state of affairs that led to his analysis of the interconnection between social class, code and code coding orientation.

I wanted to set the analysis of the school against a broader canvas of changes in forms of social control. Yet I did not want to lose sight in the analysis of the grim consequences of class relationships.... that the structure and inter-actions within the school distributed success and failure so unevenly and so painfully. (Bernstein 2003, pp1-2)

5.2.2 Bernstein's three level analytic framework

Bernstein's (2003) framework for the analysis of code bears some resemblance to Bronfenbrenner's (1979) ecological model, introduced at the conclusion of Chapter One. As in Bronfenbrenner's example, it encompasses more than just macro and micro dimensions of social life- in this case it is a three rather than two level construct, as shown below in Figure 5.



Figure 5 Three levels of analysis in Bernstein's code thesis (based on Bernstein 2003, pp18-25)

The first level of analysis concerns what are termed *macro-institutional relationships*- that is, the '.....features of dominant and dominating cultural codes' (2003, p.18). Specifically, these codes concern the way '...class acts fundamentally on the division of labour by structuring its moral basis' (Ibid, p.19). Participation in modes of production and consumption is regulated in such a way as to preserve the cultural status quo and, in particular, the dominance of the middle classes.

The second level of analysis concerns the different codes by which *agencies* (principally but not exclusively *family* and *school*) transmit and reproduce this dominant cultural code. All agencies are, in a sense, pedagogic and so share rules similar to those of the pedagogic device. Bernstein's concept of *classification* serves to analyse how power is translated into different symbolic structures that are distributed to agencies according to their status position. *Framing* regulates the modality of the social relations, the instructional and regulative discourses, by which people within an agency are socialised to and reproduce these allocated meanings. Hence classification is the primary concept from which various modalities of framing may then flow.

It [classification] is the major concept at this level, because the concept translates power into the symbolic structure.... Framing, on the other hand, regulates the modality of the socialization into the classification and the response to it. (Bernstein 2003, p.23)

Finally, the third level of analysis concerns the coding procedures by which people actually construct and interpret *texts* in social situations and, in so doing, construct distinct modes of consciousness.

The third level would consist of an analysis of the distinctive features of the interpretative principles, the codes and codings through which the mental structure reveals itself. (Ibid, p.18)

Each level in the framework marks a relocation of the class struggle and a reinterpretation of what it signifies. The texts people produce at Level 3 are, therefore, a kind of palimpsest- they bear traces of the macro-institutional and institutional codes by which individuals are *differentially* positioned in the social matrix.

5.2.3 Codes, principles and ‘the principles of principles’

Bernstein used this three level framework to analyse how students’ different orientations to the objects of schooling (Level 3) could be connected to a wider struggle for power at the level of culture (Level One).

At its apex (**Level 1**) is a struggle between social classes over the limited material and symbolic assets that are available within a culture¹. This struggle comprises the ‘*principles of the principles*’ in that all discourses contained in a culture are a recontextualisation of this basic social relation. In other words it is

.....the principle which regulates the range of alternative principles available for selection (Bernstein 1990, p.159)

As the balance of power in this struggle shifts so, also, does the selected principle (e.g. *capitalism, socialism*) by which a given distribution of power is made comprehensible and therefore defensible. Bernstein saw that European and American cultures were dominated by their middle classes and, as a consequence, the selected principle for recontextualisation was capitalism.

Certainly in Western Europe and the USA, capitalism and its modes have been and are the dominant social principles and class relations their institutional form and arena. (Bernstein 1990, p.34)

From the principle of capitalism flows the varying modalities of classification and framing that regulate relationships across these cultures. Distinct institutional codes (**Level 2**) are created through the various *recognition rules* (relevant meanings) and *realisation rules* (permissible textual productions) by which the selected capitalist principle is transmitted.

¹ Bernstein did not see the middle or lower working classes as homogenous groups, but for the sake of conciseness they are cast here in a simple binary opposition.

Codes, therefore, are positioning devices- they select content from the universe of knowledge available across the social matrix and reposition it in institutional silos where people can be socialised to its significance. However, any relocation of knowledge involves a transformation of it that transmits the dominant principle. In capitalist societies, knowledge of Physics may enter school as a form of currency to be monopolised by the 'rich' and rationed to the 'poor'. Scientific principles become a form of coinage, minted by an exchequer and never counterfeited or defaced by its bearer.

Indeed, knowledge is not just like money: it is money. Knowledge is divorced from persons, their commitments, their personal dedication, for these become impediments, restrictions on flow, and introduce deformations in the working of the market.
(Bernstein 1990, p.134)

Importantly, the ideologies through which agencies legitimise these transformations are consequences of, not precursors to, these codes. Whereas codes are positioning devices that originate outside the agency, ideologies are a product of this positioning and are a means by which compliance or resistance to the dominant principle are signified within it (Figure 6).

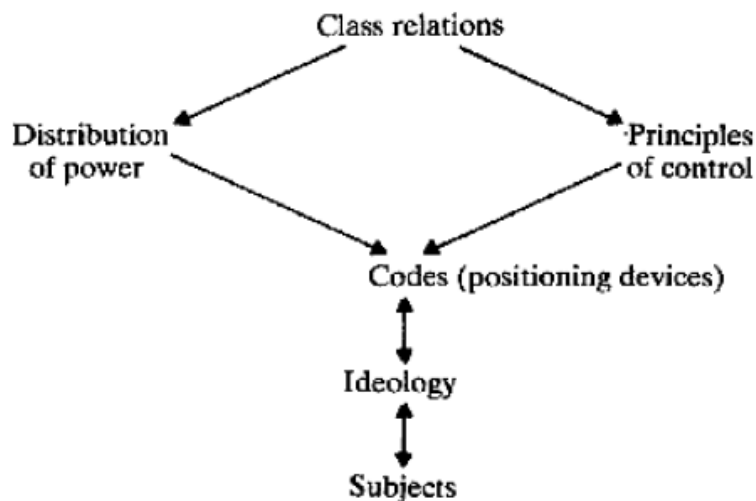


Figure 6 Skeleton outline of Bernstein's theory of code (Taken from 1990, p.11)

In educational agencies, *ideologies* can be understood as the competing *theories of instruction* used to legitimise practice. Bernstein (2003) outlines two major types of curriculum that reflect distinct ideological conceptions of the learner- one that values *progress* and another that values *understanding*:

- *Collection type*- the learner should ‘bank’ those ‘favoured contents’ that are deemed necessary to meet pre-determined evaluation criteria. An example is the science lesson observed by Coffey et al (2011), where students *did the lesson* in order to earn credit in the form of good grades (see Chapter One, p.5)
- *Integration type*- the learner should connect together contents from across subject disciplines in the service of an overarching relational concept that these disciplines are subordinated to. An example is the attempt by young children to conceptualise how the solar system works (Vosnaidou 2007, Chapter One, p.4).

Interestingly, the same ideology can underpin seemingly incompatible educational projects (Bernstein 1990). ‘Traditional’ schooling sees knowledge as valuable in its own right, and so creates an internal market that reproduces economic hierarchies (e.g. through the practice of ability setting). ‘Progressive’ schooling, by contrast, posits knowledge as a token to be traded in a labour market. This, again, leads to the reproduction of a market (e.g. vocational and academic trades). These educational ‘manifestos’ appear to be in tension but, in fact, adhere to the same collection type ideology that is underwritten by the dominant capitalist code.

Each institutional code (e.g. secondary/primary education) and its concomitant ideology (e.g. traditional/progressive) exert influence upon, but cannot determine, the modality of the coding procedures by which people within an agency communicate (**Level 3**). Bernstein (1990, p.12) identifies three aspects of communication which may express a restricted (*context specific*) or elaborated (*context independent*) variant of coding procedure:

- *Evoking contexts*- also referred to as *interactional practices*;
- *Realisations*- also referred to as *textual productions*;
- *Relevant meanings*- also referred to as *orientations to meaning*.

Coding procedures relate not only to how teachers and children speak and act in the classroom, but also to the nature of the world itself- the shaped qualities of perception that arise from these interactions.

Coding procedures are the means by which the dominant principle is reconstructed within the person, creating psychic defences that screen competing principles from perception. This necessarily cursory presentation of Bernstein's code theory is summarised schematically in Figure 7, below.

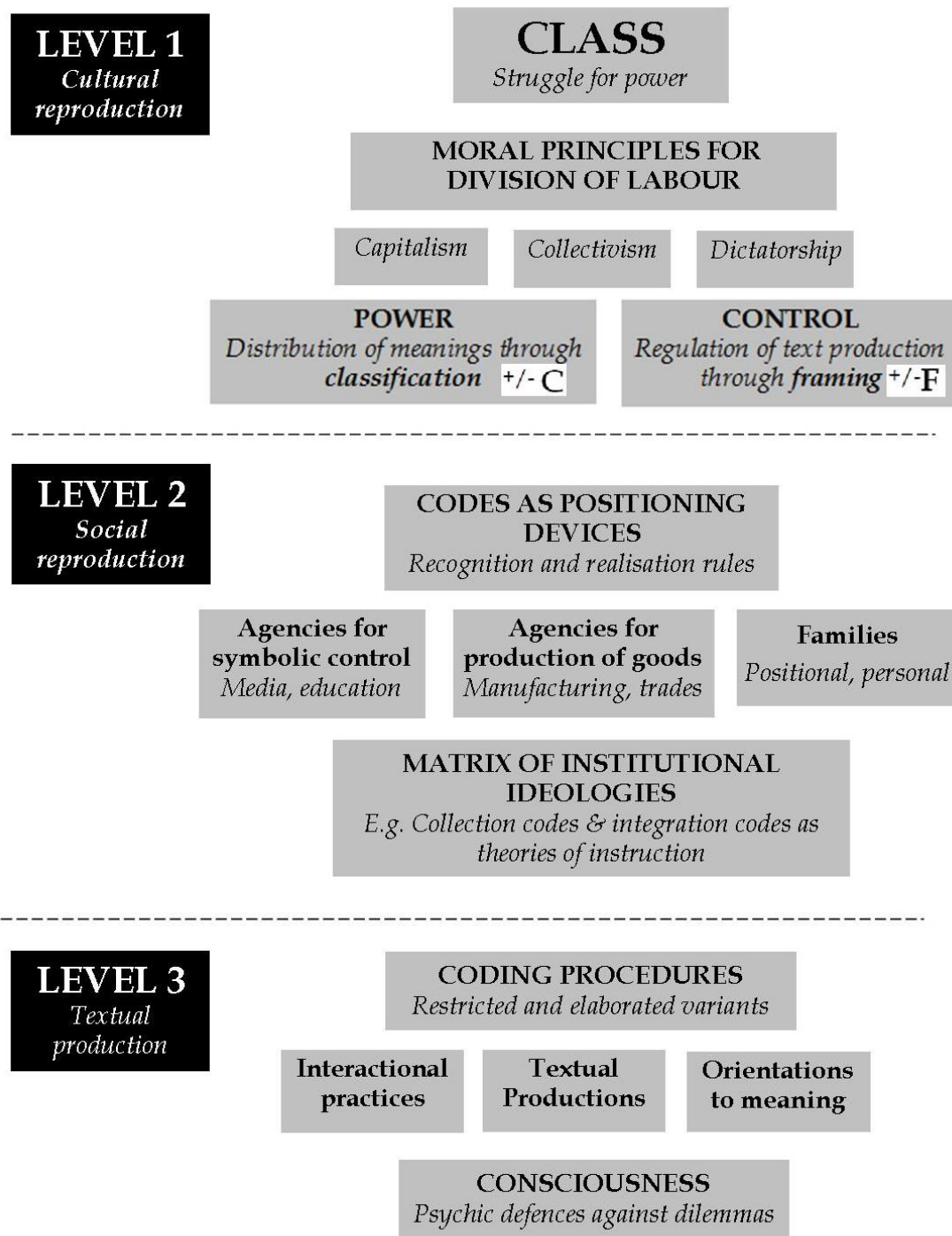


Figure 7 Schematic summarising Bernstein's code theory.

5.3 The class basis of educational success and failure

5.3.1 Bernstein's connection of class, code and coding orientation

Bernstein's controversial thesis, one he later revised, contended that educational disadvantage has its roots in the restricted orientation to symbols that working class children are socialised to by their parents. Talk in lower working class parent-child dyads was said to take place in predictable, routinised contexts. As a consequence, their interactions comprised.

...a high proportion of short commands, simple statements and questions where the symbolism is descriptive, tangible, concrete, visual and of a low order of generality where the emphasis is on emotive rather than logical implications.

(Bernstein 1971, p.21)

Interactional practices within lower working class families were characterised by a simple division of labour reflecting a *mechanical* mode of solidarity. Here there is weak classification between the roles of parent and child in the sense that each assumes the other is intimate with the same system of belief- that a *mundane world* can be known in concrete and tangible terms. Strong framing of *textual productions* results because criteria for communication are pre-prescribed by this shared belief and so are non-negotiable- comments are limited to short statements and questions concerning matters of fact. As a result, children's *orientation to symbols* is restricted to a tangible, material basis for knowledge. When first confronted with a *whale*, they may symbolise it in a structure that reflects this orientation- *it looks like a fish but it isn't a fish*.

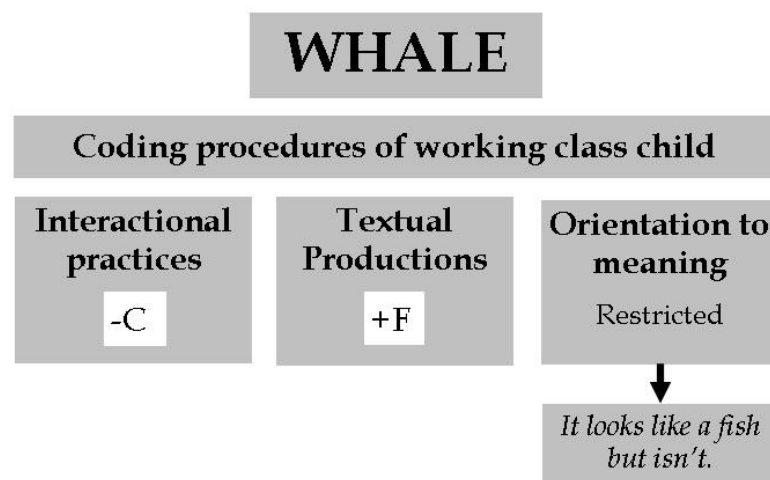


Figure 8 Restricted coding procedures of working class child

Middle class families are also assumed to engage in routinised activities and operate restricted coding procedures. However their code also tolerates references to unfamiliar or *transcendental worlds* (e.g. through museum visits or foreign travel). On these occasions both parties recognise that there is no material base upon which mechanical solidarity can be achieved. Instead the assumption of intimacy is dropped, thus opening a *potential discursive gap* necessitating *interactional practices* with a more complex division of labour. *Organic solidarity* is achieved through weakly framed *textual productions*, whereby the position of each party becomes clearer as mutual differences are probed and explained. *Orientation* therefore is *both* to the *person-* to the meanings they attach to a situation- *as well as the concrete particulars* as they are perceived. Elaborated orientations are expressed through elaborated symbol structures that exceed the direct experience of the child and may include concepts that transcend the immediate situation. When first confronted with a *whale*, they may symbolise it as *It looks like a fish* [direct experience] *but it doesn't lay eggs* [other's experience] *so it's a mammal* [abstract concept].

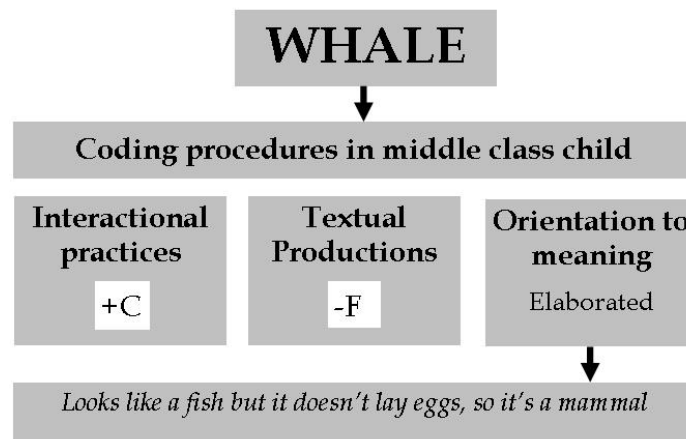


Figure 9 Elaborated coding procedures of middle class child

Bernstein argued that coding procedures and pedagogic codes are not exclusive to schooling but also characterise the distinct 'local pedagogies' experienced in all other agencies, including families of different class types. As a result, children do not orient to the objects of schooling in the same way and so do not recognise the same coding procedures as applying to their interpretation.

5.3.2 *Empirical evidence connecting class and coding procedures*

Ruqaiya Hasan, a long-time collaborator of Bernstein's, acknowledges shortcomings in his early research into social class and language. Much of the data collected by the Sociological Research Unit consisted of questionnaires and interviews, with little recorded data of actual patterns of talk (Hasan 2002). There are suggestions that Bernstein lacked a coherent analytic framework had he collected such data. Although Bernstein met Michael Halliday in the early 1960s, the latter's systemic functional grammar was insufficiently developed to be of use by him as he started to publish his theory relating to class (Christie 2007). Hence, a subsequent research programme sought evidence in support of his model through close observation of parent-child interactions.

Holland (1986) connected modes of parental control not to social class per se but to employment in different agencies of production and symbolic control. She found that questionnaire data from mothers employed in the field of *production* (e.g. manufacturing) and *symbolic control* (e.g. law) showed a tendency towards *positional* and *personal* modes of control respectively. The former is characterised by role relations that are well marked with clear boundaries, the latter a more complex underspecified division of labour where roles are fluid and negotiated. Building on this work, Hasan (1989; 1992; Hasan & Cloran 1990) hypothesised that *Higher Autonomy Profession* (HAP) parents would be more likely to employ elaborated coding procedures at home because of the specialised nature of their interactions at work. These are marked by strong classification between HAPs and their subordinate colleagues, along with weak framing of the textual productions by which they mediate delegated tasks. *Lower Autonomy Families* (LAPs) were assumed to communicate primarily with colleagues of similar status (weak classification between role status). Their work interactions were judged to be positional in tone and mechanical by comparison (strong framing). Through applying Halliday's (1975) systemic functional grammar framework to transcripts of recorded parent-child interactions, Hasan found these patterns were repeated in the parent-child data, summarised in Table 8, overleaf.

Mode of talk	Description	HAP Strong classification/ weak framing	LAP Weak classification/ strong framing
Informative	<i>Providing information</i>	Use is made of <i>abstract concepts</i> (e.g. the law, morality, biology) to place immediate concerns into a wider context.	Information is limited to norms and common sense understandings that are seen as immediately relevant
Formative	<i>Seeking information</i>	Parents ask prefaced questions that bridge personal space between parent and child space (<i>Did you know...?</i>).	Parents ask assumptive questions that assume a shared understanding of a given situation. <i>That's right isn't it?</i>

Table 8 Contrasts between HAP and LAP parents' interactions, based on Hasan (2002)

5.3.3 *The privileging of elaborated orientations in the curriculum*

Whitty (2010), discussing progressive attempts at reform of the UK education system, suggests that the curriculum is biased towards middle class culture and so excludes forms of knowledge privileged by the lower working classes. In other words, socially disadvantaged children do not properly recognise lesson contents because these express an elaborated orientation to meaning to which only their middle class counterparts have been socialised.

It was argued that the codes of education consist of elaborated orientations to meanings because of the indirect relation of these meanings to a specific material base.
(Bernstein 1990, p.26)

A study (Williams 1999) goes some way towards supporting this notion. This was a small scale project (20 parent-child dyads), again set in Australia, this time focussed on infant children in the year prior to starting school. Recordings were made of HAP and LAP parents talking to their children at home about books. These conversations were compared to recordings of equivalent reading activities in the kindergarten classes these children were about to enter later that year. Again HAP parents asked for more explanations and prefaced their questions more frequently- their coding procedures were more elaborated and so were the orientations to meaning that resulted. Importantly, these same characteristics were also found in the recordings of classroom interaction.

5.3.4 The reinforcement of restricted coding procedures in the classroom

However, the school-based use of prefaced questions was variable in Williams' study, with six out of the twenty classes using them just once or not at all. There is also a large body of evidence to suggest that use of elaborated coding procedures would have diminished substantially once these children left kindergarten and entered formal schooling. Mehan's (1979) seminal study, showing the heavy reliance of teachers on '*questions with known answers*' has since been replicated many times across multiple age groups and contexts (Macbeth 2003). Indeed several authors comment on the surprising resilience of the routinised '*Initiation-Response-Evaluation*' (IRE) pattern of talk, first identified by Sinclair and Coulthard (1975), in the face of concerted attempts to mitigate its restrictive effects (Nystrand et al 2003; Alexander 2005; Mercer et al 2009). Hence, when Williams argues that at school

A mirror relation is created for the HAP group, but a distortion for the LAP group
(Ibid, p.118)

one might argue that, in terms of coding procedures, it is the other way round. After a brief interlude in the early years, the rest of schooling is, for the LAP children at least, simply a continuation of the assumptive modes of talk that characterised their early upbringing. Wells (1993, p.2) asserts that IRE patterns of talk become increasingly dominant as students transfer from primary to secondary school. More recently (Wells 2012) has argued that, although to the detriment of all, this has a disproportionately punitive effect on children from disadvantaged backgrounds. In other words the device is not just biased in terms of a curriculum built from the *elaborated orientations* of the middle classes, but also penalises the lower working classes by (re)transmitting these contents within a code of schooling that duplicates the restricted procedures they experience at home.

5.3.5 Pedagogic code and elaborated meanings in a figure-ground relation

Bernstein made the following comment with respect to the misalignment of coding procedures at Level 3 of the analytic framework and the elaborated symbol structures allocated to schools through rules of classification at Level 2:

Because classroom talk at the surface level may consist of short question, answer, check, solicit, expand – teacher-controlled routines – this does not mean that it is restricted in the terms of the theory..... The referential relations of the dominant curriculum are, however, still elaborated. (Bernstein 1990, p.92)

Elaborated symbol structures (e.g. *a whale looks like a fish but is a mammal*) emphasise abstract relations that transcend the concrete particulars of a single situation. It is this that Bernstein refers to in the above quote when he points to the referential relations of the dominant curriculum. Classification rules privilege elaborated meanings of the sort produced in middle class homes and relocate them to the school as ‘favoured contents’ to be learned. However, as has been said, any relocation of knowledge results in a transformation of that knowledge. This is because it involves a substitution of code (*ground*) against which these symbol structures (*figure*) must be interpreted. The same elaborated meaning produced at Level 3 (*A whale looks like a fish but is a mammal*) will be oriented to differently depending on the super-ordinate code of the agency at Level 2, within which it is realised.

If the super-ordinate code is elaborated, then the variant [of text] stands in relation to the code as a figure to its ground. In this sense an elaborated variant in a restricted code is different from such a variant in an elaborated code. (Bernstein 2003, p.24)

The simple division of labour and IRE textual productions of the pedagogic code, observed by Mehan and others, are an analogue of the restricted coding procedures that accrue from working class codes. In school, therefore, lower working class children are socialised to a *restricted orientation to elaborated meanings* without access to the middle class code and coding procedures by which an *elaborated orientation* to these meanings is achievable. In this way, working classes children acquire knowledge of elaborated symbol structures, but without fully understanding them or controlling them.

5.3.6 *How perception of ambiguity and dilemmas differ by class*

It is contended that members of the unskilled and semi-skilled strata, relative to the middle classes, do not merely place different significances upon different classes of objects, but that their perception is of a qualitatively different order.
(Bernstein 1971, p.18)

The contrast in perception of figure (interpretive dilemmas) against ground (code) according to class can now be described in terms of Gibson's (1979) ecological psychology.

Firstly, elaborated meanings as textual productions (written or spoken) *afford* multiple and conflicting interpretations, each reflecting a different code and ideology present in the social matrix. This is because, although codes create coherence *within an agency*, they do so to maintain a differentiated status hierarchy *across agencies*. The classification rules of the pedagogic code operate to distance these tensions- to create a 'home' in school where they no longer *seem* to exist. Hence only some symbolic structures (i.e. those drawn from the middle classes) are selected and relocated as objects relevant for schooling.

In collection type curricula, these elaborated symbolic structures are treated as hard cash- they are stripped of any 'counterfeit' values attributable to them that may interfere with the efficient operation of the school's internal market. However, a code is only a temporary position of shelter against the wider struggle for power it sits within and is designed to mask. For this reason, symbols always afford the potential for *message* to reconfigure *voice*.

...the cleavages, contradictions, and dilemmas, which are latent in the 'voice', are a potential of the realization of the message. (Bernstein 1990, p.28)

That said, only some children have the *effectivities* to perceive these dilemmas and understand their significance. Middle class children, socialised to organic, person oriented modes of interactional practice at home, occupy a classroom environment that is qualitatively different from their working class cohabitants.

These children are more likely to be middle class and are more likely to come to understand that the heart of discourse is not order but disorder, not coherence but incoherence, not clarity but ambiguity, and that the heart of discourse is the possibility of new realities. (Bernstein 1990, p.66)

Through their early home life, middle class children come to perceive objects of learning in *relative* terms. They are able to interpret them simultaneously from multiple perspectives, each perspective having a different social value attached to it (Hasan 2012). Hence, their *dynamic intention* towards ambiguity and dilemmas is also different. The objects of schooling are oriented to in the *future tense*- as a means by which novel relationships may become possible. In contrast, the mechanical, positional interactional practices of the working class habituate perception of objects as self-contained and *historically* determined ...*separate unconnected facts or, at best, crude causal connections are made* (Bernstein 1971, p.24)- this *despite* their elaborated structure. Here dilemmas pose a threat to beliefs and habits of mind by which the world has been made sense of in the past. Therefore, whereas middle class children are likely to seek out and pursue ambiguity, lower working class children will minimise it as a matter of course.

Code modalities as practices may result in attempts to control or silence ambiguities, as is the case in the early formulation of positional modalities, or provoke ambiguity as is the case of personal modalities. (Bernstein 2000, p.178)

5.3.7 *The class basis of educational failure*

Hasan argues that it is the failure of the education system to recognise these differences in students' orientation to the objects of schooling that explains its failure to secure equality of opportunity.

This is not to claim that this shaped mind cannot be developed further and/or made to turn in different directions, but it seems certain that this will be a difficult goal to achieve if we go on assuming homogeneity of coding orientation for all pupils and the myth of an egalitarian education (Hasan 2012, p.91)

Bernstein later downplayed the significance of restricted codes and spoke of codes as being more or less elaborated (Davies 1995). The implication is that some middle class children, especially those whose parents work in agencies of symbolic control (e.g. law, journalism), do not benefit from a unique coding orientation per se, but enjoy greater freedom of movement across the restricted-elaborated spectrum. In other words, they acquire more *self-control* in the way they orient to symbols and, therefore, are more adept at the positioning of self and others in interpretive situations.

That fraction of the middle class which has gained access to the area of symbolic control (specialized and dominant forms of communication) selects from prevailing forms of the socialization of the young those forms which encourage children to display their diversity and to learn the subtleties and strategies of inter- and intra-personal control.
(Bernstein 2003, p.17, my emphasis)

If codes are devices by which *people are positioned* according to a dominant principle, then coding procedures are the means by which *individuals position themselves* with respect to these principles- some more nimbly than others. If middle class children submit to the device as a 'ruler of consciousness', they do so largely by choice- lower working class children in the main do not. Ironically it is this lack of skill in self-control that identifies the latter as needing to be made 'safe' through IRE type interactional practices.

Elaborated orientations (where there is an indirect relation to a specific material base) are, however, always subject to strong regulation and surveillance, for these orientations have the potential of creating alternative realities, possibilities, and practices. Elaborated orientations are potentially dangerous, and those acquiring them have to be made safe. (Bernstein 1990, p.54)

'Repair systems' make children 'safe' by rationing the very skill in symbolic control through which elaborated orientations, needed to achieve 'legitimately pedagogised' status, might be developed. At school, the less experience in symbolic control one has, the less likely it is one will be permitted to wield it. Moreover, the regulative discourse working class children experience at home encourages them to collude in this clipping of their interpretive wings. The dilemmas and ambiguities through which autonomous symbolic control might be spontaneously exercised are the very aspects of the classroom environment they feel bound to suppress and ignore, perhaps despite teachers' efforts to the contrary (e.g. Vansledright 2002).

5.3.8 The ethical warrant for design of a dilemmatic pedagogy

The above analysis of Bernstein's theory of code and class goes some way to explaining how it might be that schooling distributes ...*success and failure so unevenly and so painfully* (Bernstein 2003, pp1-2). However, this was Bernstein's starting point for inquiry- it was not my own. The aim of this thesis is to explore the possible effects of a pedagogy designed to elicit interpretive dilemmas, not trace the class origins of unequal educational opportunity. That

said, his theory is of great value because it explains in detail what could only loosely postulated at the end of Section One- that interpretive dilemmas are not just a quirk of the school system but are a crystallisation of principles fundamental to its operation. Furthermore, Bernstein's theory provides an ethical warrant for developing a pedagogy expressly designed to interrupt and interfere with the smooth operation of classroom practice. This is because in so doing it may be possible to shorten the lengthy tail of under-performance to which Whitty (2010) and others refer.

I would argue there are marked similarities between the opposing responses to teaching dilemmas described by Helsing (2007) and the opposed coding procedures of Bernstein's class based theory- these are summarised in Table 9, below. This suggests the possibility at least, that dilemma management by students may be a distinct form of coding procedure at Level 3 by which a restricted code at Level 2 may be interrupted and, perhaps, changed.

Individually controlled symbols	
<p>Dilemma management</p> <p><i>Balancing</i> (both/and)- upholding competing interpretations as equally valid</p> <p><i>Alternating</i> (either/or)- moving between interpretations to explore their relative merits.</p> <p><i>Synthesis</i>- revising one's commitments in the light of another's interpretation.</p> <p>Seeing beyond what we know</p>	<p>Elaborated coding procedure</p> <p><i>Strong classification</i> between people in terms of their different criteria for communication. <i>Weak framing</i> of textual productions enable organic solidarity- prefaced questions and explanations used to probe how and why criteria differ. <i>Elaborated orientation</i> enables multiple interpretations of the same concrete situation to be balanced.</p> <p>Mutual understanding is actively constructed</p>
Socially controlled symbols	
<p>Dilemma minimisation</p> <p>Following bureaucratic rules, regulations, policies and procedures. Limited emotional risk. Denial.</p> <p>Asserting what we already know</p>	<p>Restricted coding procedure</p> <p><i>Weak classification</i>- both parties are intimate with the same criteria for communication. <i>Strong framing</i> allows quick and efficient textual production- short statements and questions establish facts. <i>Restricted orientation</i> relates a single interpretation to a material base for knowledge.</p> <p>Mutual understanding is assumed</p>

Table 9 Comparing Helsing's analysis of dilemmas with Bernstein's coding procedures

Restricted coding procedures are built on the premise that symbols are *socially controlled* with respect to an a priori cultural principle. Codes position people and symbols in hierarchies that delimit what can be said and what can be meant. Where capitalism is the dominant principle this allows for quick and efficient transmission and reception of the content that is to be 'banked'. These are the emotionally safe conditions under which dilemmas are minimised in classrooms. Dilemma management violates the dominant principle because it balances this principle against the possibility of a competing order. This removal of shared criteria for communication necessitates the active control of symbols by individuals. Rather than be positioned by a code, people act to position themselves relative to one another and so evolve their own principles for interpretation.

Just as dilemma management allows teachers to '*see beyond what we know*', so it might also socialise some children to an elaborated orientation to meaning that is currently kept beyond their grasp by dominant forms of classroom interaction. The price to be paid, however, is increased feelings of confusion, dislocation and anxiety, not least on the part of teachers held accountable for their charges' exam success. As is the case with dilemmas, one loses whatever one chooses both ethically and epistemologically.

5.4 A domain theory of interpretive dilemmas

5.4.1 Rationale for this iteration

Figure 3, repeated from page 35, shows the 'germ' form of the domain theory described at the conclusion of Section One. It incorporated two dimensions of '*dilemmatic spaces*' from Fransson and Grannas' (2013) analysis of teaching dilemmas- the *structures* (policies; curricula) by which teachers are positioned, and the *relations* (social interactions) by which they position themselves relative to these structures. In Chapter Four this model was imputed to the dilemma space occupied by students engaged in collaborative problem-based-learning (PBL). The *structural* and *relational* dimensions of these spaces are paralleled by Bernstein's concept of *codes* as (structural) positioning

devices and *elaborated coding procedures* as (relational) sites of individuated symbolic control whereby (some) people position themselves.

..... The subject's experience of being in a dilemma is in relation to the surrounding structures, e.g. to laws, regulations, rules and codes of conducts and positioning as a result of power issues, norms and values. Thus, dilemmas become more like positions than situations, and more like positioning than problem solving.

(Fransson & Grannas 2013, p.14)

The germ also borrowed from Gibson (1979) to suggest that *interpersonal* relations shape the *intrapersonal* effectivities by which affordances are made more or less salient to students. Again there is a connection to be made with Bernstein's thesis, this time in his assertion that classification and framing serve to shape interactional practices at school which, in turn, strengthen psychological defences against dilemmas.

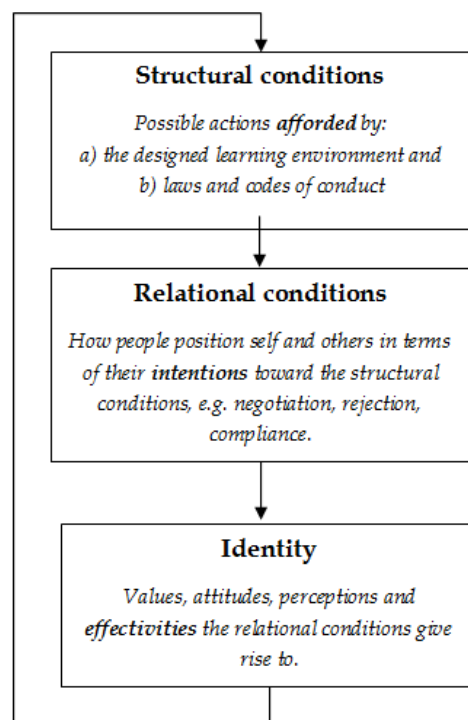


Figure 3 Germ form of domain theory- interpretive dilemmas as an ecological space

Bernstein's meticulous sociological anatomy of schooling allows this initial sketch to be expanded into a more detailed model of the problem being addressed. More importantly, perhaps, his thesis provides justification for the design of a dilemmatic pedagogy, in that it may provide access to elaborated orientations that the pedagogic device denies some of its students.

There is, however, a point of departure from Bernstein's theory at this juncture of the analysis and it concerns the driving principle that is the motor of his work. Classroom dilemmas, au fond, are taken by Bernstein to be a recontextualisation of 'the principles of the principles'- the struggle between classes for dominance over the means of production and consumption. In Section One this thesis it was conjectured that interpretive dilemmas have their source in a different struggle altogether- one between people and the world they are trying to know and understand. Cartesian anxiety, it was said, is an existential state that shapes cultural phenomena. It predates society and its concomitant status hierarchies and derives from the elemental refusal of the physical world to provide a stable basis for knowledge. Hence, the origins of interpretive dilemmas are taken here to be phylogenetic not ontogenetic or micro-genetic in their nature.

If class struggle is the apex of Bernstein's theory then it is dualism, the mind-body separation, that is 'the principles of the principles' governing the domain theory. Interestingly, this is an epistemological conundrum that certainly preoccupied Bernstein, even though it does not feature prominently in his thesis. Here, for example, are his reflections on the difficulty he had throughout his career in formulating and communicating concepts:

It is sometimes as if the condition for re-arranging is the re-arrangement of parts of oneself, yet the rearrangements of parts of oneself can only be done when the concepts have been formed. Outside and inside are linked by a tense dialectic. When this tension slackens, one is doing no more than performing arabesques around the past....

(Bernstein 2003, p.2, my emphasis)

Scattered throughout Bernstein's theory are concepts that are binary inversions of one another. When sketching out his thesis he began by casting them as polar opposites, then later bringing them together into a more nuanced relation. However, in doing so he found that these concepts then lost their meaning. Seemingly one can have clarity (things apart) or validity (things put together), but not both at the same time.

The initial condensing has itself become a principle of denial. Terms like implicit/explicit, intimacy/distance, visible/invisible, positional/personal (which never are simply dichotomies, but are dialectically related) may no longer intensify inner contradictions. (Ibid, pp 2-3)

This substitution of one ‘principles of the principles’ for another may appear an unnecessary quibble, but given the ecological nature of Bernstein’s framework it is an important one. His three level framework posits that interaction at all levels is a recontextualisation of the same underlying tension. Without establishing the precise nature of this foundational tension, lower levels of analysis in the domain theory will necessarily be partial and distorted.

5.4.2 Domain theory (Overview)

Figure 10, below, is an overview of how the germ has been expanded to incorporate key elements of Bernstein’s thesis.

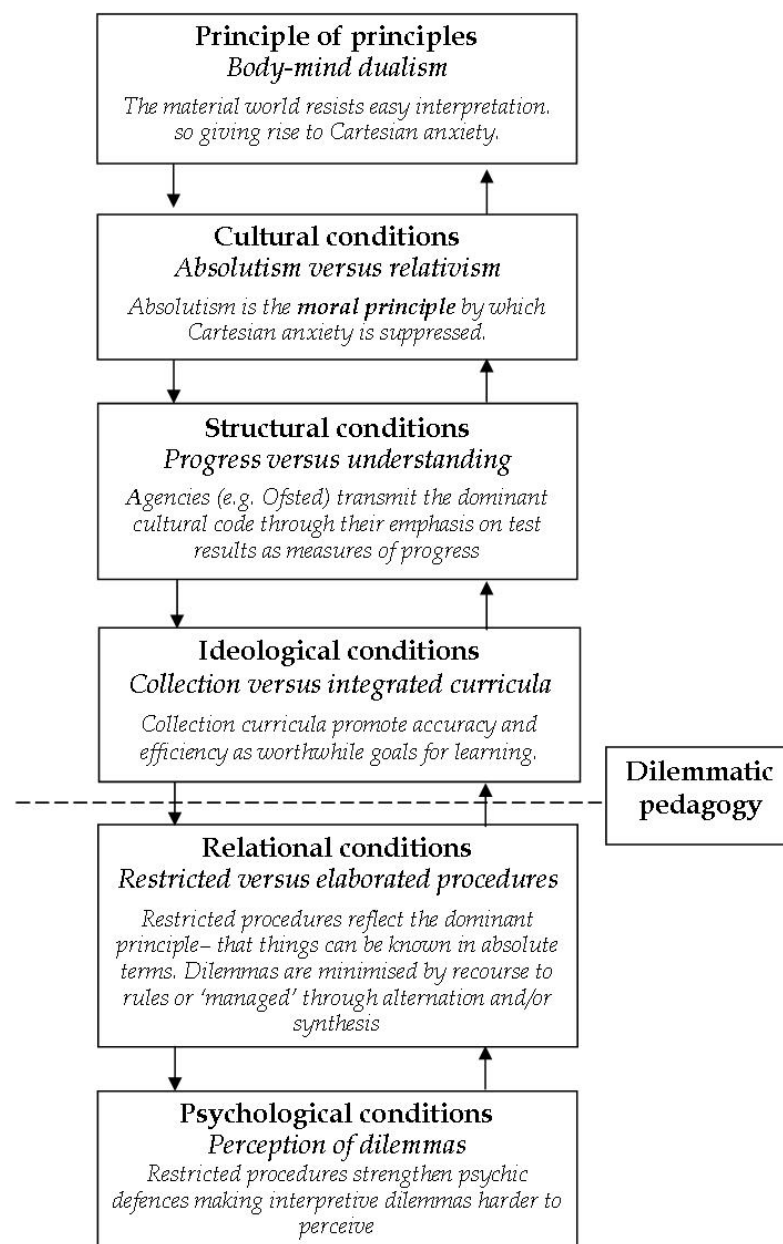


Figure 10 Overview of first iteration of domain theory

The principle of principles governing the domain theory is not one of power over people but power over nature- the struggle to find a release from Cartesian anxiety. The dominant cultural principle that emerges from this struggle is *absolutism*, the conviction in society that things are self-contained and that the truth of them can be established beyond question. From this super-ordinate principle flow other principles that transmit this conviction across all aspects of culture: *capitalism* (ownership of things can be determined absolutely); *positivism* (the truth of things can be proven absolutely); *orthodoxy* (faith can be defined absolutely). Ironically, therefore, Bernstein's *anti-dualist* model is here used to describe a cultural system dominated by a *dualist* epistemology.

Codes, as Bernstein argues, are the means by which agencies are formed to transmit these cultural principles to society. The teachers' '*value-practice*' gaps, discussed in Chapter One, are an illustration of a code for schooling that prioritises *progress* over *understanding*. The standardised tests by which progress is measured are based on the premise that items of knowledge should be oriented to in the same way by all students across populations, regardless of their beliefs or personal insights. The agencies of schooling (e.g. the QCA) develop collection type curricula that legitimise this suppression whilst other agencies in the social matrix (e.g. universities) compose counter-ideologies that challenge this dominance. These ideological conflicts are sedimented in the elaborated symbolic structures to which children are socialised in the classroom. Collection curricula protect the dominant principle by enabling only restricted procedures that are emotionally and epistemologically 'safe'. These procedures give rise to modes of perception that obscure interpretive dilemmas, therefore increasing the susceptibility of students to the dominant absolutist principle in their future interactions.

The proposed dilemmatic pedagogy would operate at the boundary between ideology and relational conditions rather than at the level of structure (code).

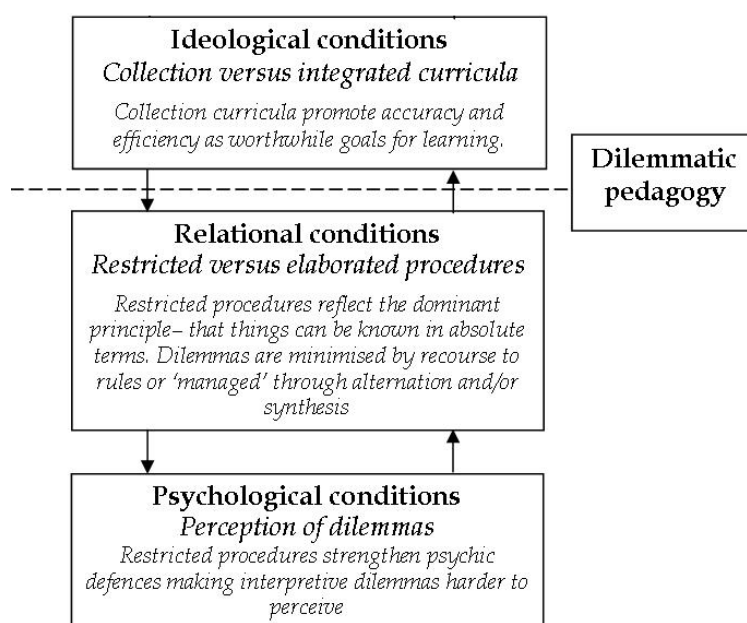
More specifically, class-regulated codes position subjects with respect to dominant and dominated forms of communication and to the relationships between them. Ideology is

constituted through and in such positioning. From this perspective, ideology inheres in and regulates modes of relation. (Bernstein 1990, p.10)

The pedagogy would be designed to interrupt the ideology by which the dominant code recruits the willing (or unwilling) participation of teachers and students in the course of their interactional practices. Hence, *ideology* is posited as an *index of structure* rather than as a structure in its own right

5.4.3 First domain theory iteration

Bernstein's life's work was given over to tracing the origins of interactions at school in distributions of power and control at the level of culture. Given the commitment in this thesis to conceptualising dilemmas in ecological terms, the same interconnection between macro and micro levels is expressed by the domain theory outlined above. Bernstein, however, was not able in his lifetime to substantiate empirically the nature of these relationships and such an endeavour is clearly beyond the scope of this thesis. Instead, the intention is to focus on lower levels of analysis (*ideology, relational conditions, psychological conditions*) from which relations at higher levels of analysis might be inferred.



It is this portion of the domain theory that informs the conduct of the empirical research contained in Section Four. It is with this in mind that these levels have been expanded, as shown below in Figure 11. Grey areas relate to the production of restricted orientations to meaning, white areas to elaborated

orientations. Autonomous symbolic control is taken to be the ability to balance the two when dilemmas occur. Coding procedures (relational conditions) are contained within the dotted box.

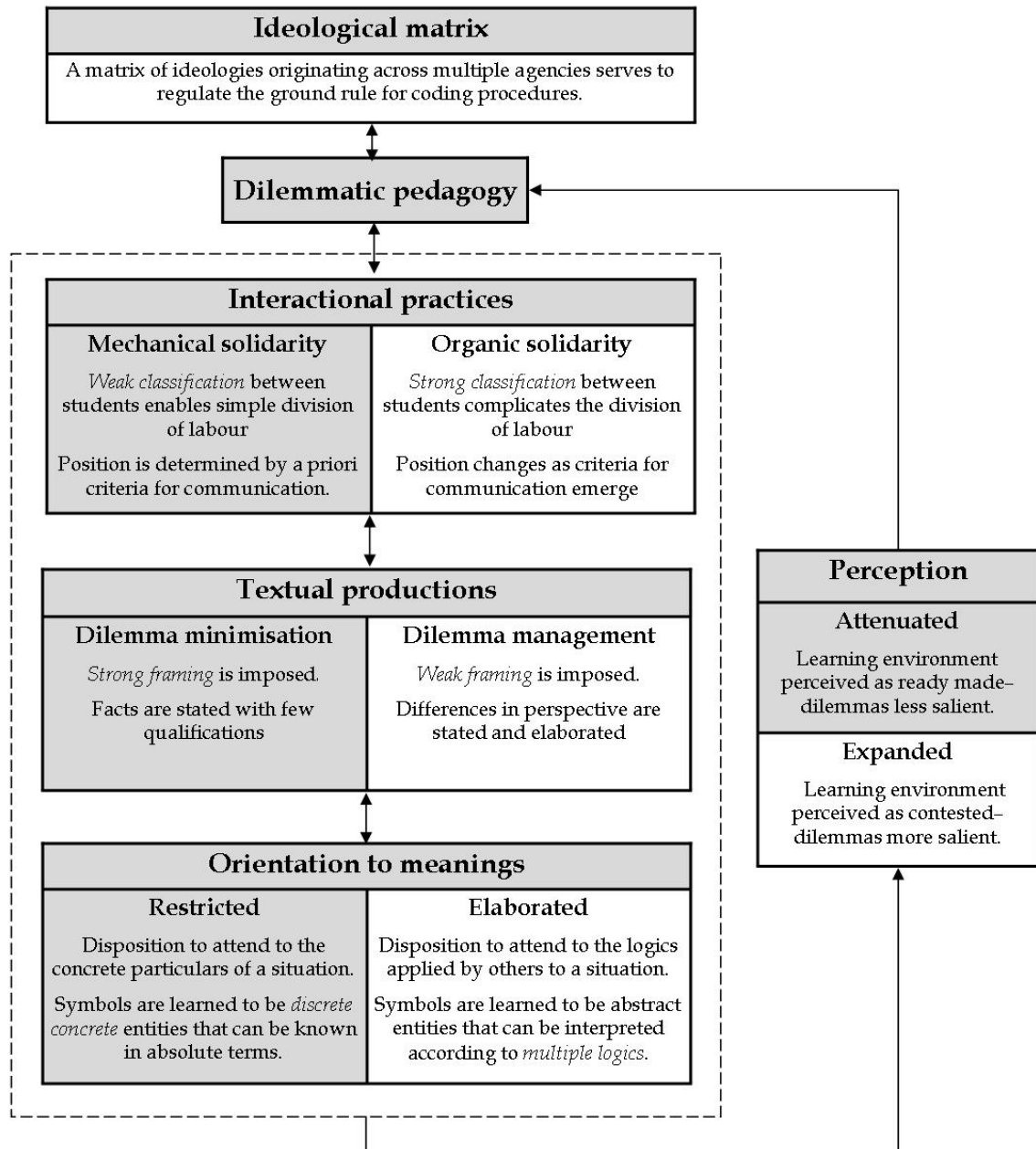


Figure 11 Ideological, relational and psychological conditions of the dilemmatic space

5.4.4 Ideological matrix

Various modes of interaction may potentially be realised when a group of students collaborate on a task designed by teachers and researchers. The selection of a dominant ‘ground rule’ for this activity will be regulated through a matrix of competing ideologies originating in the participation of all parties

across multiple agencies. These include, but are not limited to the school, the designer's university employer, the students' families and their friendship groups.

5.4.5 Interactional practices

Interactional practices refer to the way individuals orient to the ground rules for interpretation. Those who assume a simple division of labour see the dominant ground rule for interpretation as non-negotiable. Those who assume a more complicated division of labour privilege integrity over utility. They position *themselves* and others in such a way as to interfere with the operation of the ground rule, thus requiring it to be renegotiated.

5.4.6 Textual productions

Textual production refers to the messages that are constructed during interaction and the purposes they serve with respect to interpretive dilemmas. With *restricted modalities*, specialised texts are produced geared to the correct and efficient transmission of information. These texts serve to *minimise dilemmas*, casting them as breakdowns in communication rather than opportunities for building understanding. In contrast, *elaborated modalities* prioritise the production of texts that explore differences in interpretation. These texts are the means by which dilemmas are managed and capitalised.

5.4.7 Orientation to meanings

A restricted orientation to the interpretation of elaborated symbol structures means their meaning is constructed and expressed in absolute terms. Elaborated orientations will be constructed and expressed in relative or abstract terms that transcend the concrete particulars of the situation as they are perceived.

5.4.8 Perception

Socialisation to restricted orientations strengthens the perception of designed pedagogic materials as self-contained in their meaning. A disposition to attend to the intentions of others, on the other hand, acts to weaken these

psychic defences. This allows the contested nature of the elaborated symbol structures comprising these materials to be more easily perceived.

5.5 Implications and next steps

Although impressive in its scope, Bernstein's thesis is limited in its explanatory power with respect to how interpretive dilemmas emerge in specific classroom situations. His framework is a study of the *relay* by which power is distributed more than it is an analysis of what it is that is *relayed*. It is, as Daniels (2012, p.47) comments a '*sociology of cultural transmission*' not a semiotic theory of how individuals symbolise what it is that is transmitted to them. Bernstein's thesis depicts in detail the sources of educational inequality and suggests the possible pedagogic function of dilemmas as a response. But he gives no clue as to how the paradoxical nature of this problem can be approached. Specifically, how do you make dilemmas perceptible to those not equipped with effectivities to see them? Assuming that they can be made visible, how do you engineer situations where students are prevented from suppressing dilemmas as is their inclination? It is with these questions in mind that the analysis now turns to Umberto Eco's semiotic *sociology of reception* (Vladiv-Glover 2008, p.79).

Chapter 6 How can a dilemmatic pedagogy target specific coding procedures?

6.1 A critique of Bernstein's sociology of transmission

6.1.1 A macro-sociological account of ideology

Basil Bernstein drew on Emile Durkheim's (1938) *'The Evolution of Educational Thought'* to argue that contemporary schooling is an ideological system of power and control with historical roots in the medieval church (Bernstein 2000). However, Clifford Geertz criticises such arguments as being overly deterministic in their account of ideology. A close contemporary of Bernstein's (1971) *Class Codes and Control* was his 1973 essay *Ideology as a Cultural System*. This work critiques two key concepts that can be detected in Bernstein's thesis: *strain theory* and *interest theory*.

With strain theory, ideology is a form of coping mechanism developed as an escape from the *'insoluble antimonies'* people face in their daily lives. The symbolic control achieved by the pedagogic device, for example, hides the potential discursive gap from view and presents students with a world that appears mundane and knowable. In this sense schooling is a form of *'home'*, an epistemological nursery slope safe from the strain of Cartesian Anxiety. If ideology is a *'home'* constructed in response to strain, then interest theory concerns the particular interests that this home is built to protect. This posits that social life is necessarily a struggle for survival and that symbols are weapons by which the interests of some prevail against those of others. Interest theory can clearly be seen, for example, in Bernstein's emphasis on schooling as a relay of power and dominance.

It is a carrier of power relations external to the school, a carrier of patterns of dominance with respect to class, patriarchy, race. (Bernstein 2000, p.4)

Geertz's point is that such analyses of ideology tend to move directly from its causes (interest; strain) to its effects (social relations) without accounting for the role the individual plays as an active subject. He gives the example of tribesmen who pray for rain during a drought (strain), but who survive

because of the kinship this ordeal engenders (social relations) and not by divine intervention (ideology). In other words, ideology is constituted to protect certain interests against strain, but may be reshaped in unexpected ways by the relations it regulates. Similarly, Bernstein saw the pedagogic device as having unintended consequences for students' coding procedures.

Although the device is there to control the unthinkable it makes the possibility of the unthinkable available. Therefore, internal to the device is its own paradox: it cannot control what it has been set up to control. (Bernstein 2000, p.38)

Geertz's critique of interest theory and strain theory is that they take little account of how ideology is symbolised by those who are subject to it. Without such analysis, ideology is likely to appear random in its effects.

The link between the causes of ideology and its effects seems adventitious because the connecting element- the autonomous process of symbolic formulation- is passed over in virtual silence. Both interest theory and strain theory go directly from source analysis to consequence analysis without ever seriously examining ideologies as systems of interacting symbols. (Geertz 1973, p.207)

It is not the case that Bernstein ignored or was unaware of the role that symbol formulation at the level of the individual plays in the operation of ideology. Bernstein's notion of *symbolic control* was an attempt to explain how the integrative force of schooling can be made reversible, allowing people to preserve their integrity (De Quieroz 2011 pp.57-8). However, his analysis privileged a sociology of the *relay* over a semiotic account of what it *relayed*.

'...despite his acquaintance with the various philosophical and anthropological authors on language and symbolism, including Cassirer and Whorf and Vygotsky and Luria, Bernstein's approach epitomises an essentially macro-sociological point of view.'
(Daniels 2012, p.48)

6.1.2 A monologic conception of voice

By focussing on the device's transmission of 'voice', Bernstein appeared to downplay the importance of *addressivity* in understanding how it is received by students.

Bakhtin refines Bernstein's somewhat monological notion of a code by suggesting that to speak in a particular voice is to speak with a particular dialogically responsive orientation or relation towards those whom one thinks of oneself as addressing.
(Shotter & Lock 2012, p.73, my emphasis)

The concept of *addressivity*, to which Shotter and Lock refer, originates with the dialogic literary criticism of Mikhail Bakhtin. This posits that when formulating an utterance, one assumes the position of the 'other' in order gauge how it will be received and understood. Therefore, contained in this utterance is the reply anticipated from the student addressee.

Education, as opposed to training or dressage, always requires this persuasive or dialogic voice that speaks to the student from the inside. The addressee enters into the very beginning of an utterance and how in a true dialogue it is no longer possible to say who is thinking (Wegerif 2011a, p.181)

Code, as described by Bernstein, is part of a relay that transmits a distribution of power to a *generalised* notion of the individual. The capitalist principle upon which it is founded does not take the particular commitments and values of each student into account. Knowledge, instead, is a currency that should circulate efficiently within a market, without interference from those who might debase its value. Code is the transmitter of a broadcast- it addresses everyone in general, and so addresses no one in particular.

However, if the pedagogic device is monologic in its *transmission*, Bernstein certainly did not see it as monologic in its *reception*.

Normalizing processes produce norms and their agencies, which are rarely free of the contradictions, cleavages, and dilemmas they are set up to control. Socialization into norms, from this point of view, is then always socialization both into another's voice and into one's own 'yet to be voiced' (Bernstein 1990 p.138, my emphasis)

As has been said, each agency is positioned by means of *distinct* principles of classification that are applied to symbols *common to all*. From an agency's point of view, interactional practices are framed with respect to a classification of a priori meanings, referred to as 'voice'. However, from the point of view of the person being socialised, a symbol expresses two voices at once- the 'voice' by which they are positioned and a 'yet to be voiced' by which they may (re)position themselves. In a system of mechanical solidarity, 'voice' operates in a *past tense* and expresses meanings as *prerequisites* of interaction. The 'yet to be voiced' operates in a *future tense* and expresses novel meanings that might be the *products* of interaction. Symbols have two voices- one received as a broadcast, the other as if it were personally addressed to the student.

6.1.3 Implications for the domain theory

The domain theory, summarised below, is based largely on Bernstein's code theory, and so is also vulnerable to the critiques described above.

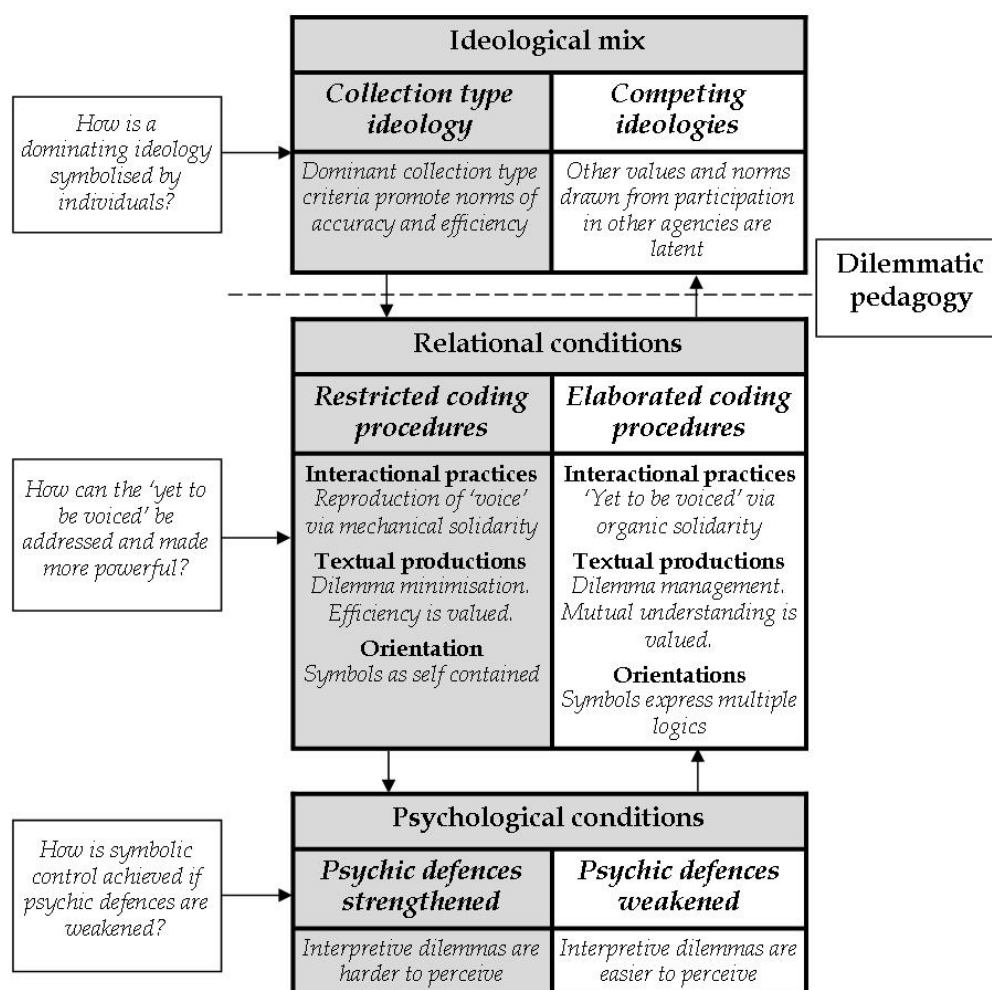


Figure 12 Critique of domain theory proposed at the end of Chapter Five

First is the working class's collusion with the dominant collection code. How is the ideology of the code symbolised by students through their positioning of self and others? Second, the domain theory offers no mechanism by which the dominant code and its ideology can be interrupted and elaborated coding procedures made more likely. If 'voice' expresses the power of the dominant, how can the dominated 'yet to be voiced' be made more salient? Finally, how is symbolic control achieved by individuals when the dominant ideology is under strain and there are no coherent ground rules for interpretation? This chapter turns to Umberto Eco's '*sociology of reception*' in search of refinements to the domain theory that address these issues.

6.2 How is a dominating ideology symbolised by individuals?

6.2.1 Code and problem of aberrant coding

Bernstein's *sociology of cultural transmission* posits that codes position people in a social structure, that ideology is constituted through such positioning and that this ideology serves to regulate modes of relation and, thus modes of perception. School, work and family are compulsory codes in the sense that one must, to a degree, participate in their practices. Aberrant codings (e.g. management of dilemmas) are coding procedures that pollute the ideology of these codes because they violate the dominance of the principle they transmit.

Literary genres (e.g. crime, romance) and schools of art (e.g. cubism, surrealism) are also posited by Eco (1984) as forms of code, but ones that people seek out and engage with as a matter of preference. Eco's *sociology of reception* focuses on ideology as a tool by which *people choose to position themselves* in their interactions. The problem of aberrant coding, from Eco's perspective, is a reversal of that posited by Bernstein. His interest is in why people choose to suppress the dilemmas and creative possibilities that all texts as symbolic structures afford to them. He made the following comment on the subject at a 1965 conference with respect to television broadcasts.

.... it is not enough to study what a message says according to the code of its senders but it is also necessary to study what it says according to the codes of its addressees (the idea of "aberrant coding"). (Eco 1990, p.48)

Eco's use of code and the code concept developed by Bernstein are therefore very different. For the latter, code was a sociological construct- a positioning device through which an ideology is constituted that legitimises power relations. For the former, code has no such centre of gravity, no dominant cultural principle that gives it its shape. Code is, instead, posited as a semiotic practice- it is the '*apperceptive background*' that people rely upon in order to impose meaning on what others are saying to them. Addressivity, therefore, is important to Eco not as a means to reinforce codes but as a way of determining how these codes and their aberrant codings can be interrupted.

6.2.2 *The deontic nature of Eco's institutional codes*

Geertz' (1973) critique of ideology took as its starting point Mannheim's paradox, namely

where, if anywhere, ideology leaves off and science begins (p.73).

If ideologies are *beliefs* to which people attach great *moral* significance then, he argues, establishing the basis of this moral significance becomes a central issue in sociological analysis. Ideologies are often cast in a negative light because they seem to disguise value judgements as scientific certainties. This can be seen, for example, in Bernstein's 'interest theory' of collection type curricula. Via framing and classification he traces the 'facts' taught in school to a capitalist principle that legitimises the economic power of the middle classes. The strong classification rules that realise such curricula create oppositional binaries- capitalist/collectivist; absolutist/relativist; organic/mechanical. In this way the key binary (dominant and dominated) is recontextualised as it moves from one level of Bernstein's framework to another. Such binary oppositions are also the basis for computer languages and scientific taxonomies. Hence, in a culture prone to Cartesian anxiety, they imbue the ideology of the collection code with the detached sheen of mathematical objectivity.

However, Eco (1984) argues that even under these conditions the ambivalent nature of symbols makes any form of determinism impossible to realise in practice. This is because ideologies expressed in the medium of linguistic symbols always follow a deontic rather than a mathematical logic in their reception.

Institutional codes as a deontic system certainly imply a sort of calculus but different from a logico-mathematical one. A system of behavioural instructions, such as a moral or etiquette code, involves acceptations and rejections, considers the possibility of violations, introduces imperatives, law reinforcements and concessions, is open to possibility; it is a calculus of a moral order. (Eco 1984, p.184)

Bernstein recognised and reiterated the paradoxical nature of the pedagogic device- that its ideology makes available the possibilities it wishes to suppress- but did not elaborate on how these possibilities are symbolised. Eco's semiotic theory of institutional codes has this phenomenon as its central focus, which he

explains by means of two concepts- the *local dictionary* and the *encyclopaedia*- both borrowed from the literary criticism of Mikhail Bakhtin. Bakhtin held that symbols simultaneously express two moral imperatives traceable to the fundamental problem of Cartesian anxiety- the need for *stability* balanced against the need for *change*.

Bakhtin views the communicative sphere as the terrain of a ceaseless battle between the forces of stasis and fixity on the one hand, and movement, change and diversification on the other, a struggle which is ultimately responsible for the continual emergence of new meanings and significances in the verbal-ideological world. (Gardiner 1992, p.34)

The *centripetal* value of symbols is that they enable social cohesion and coordination (Holquist 1990). Eco (1984) uses the metaphor of a '*local dictionary*' to describe the distinctive way truth and value are symbolised *within* a particular social group. Such a dictionary serves a *utilitarian function*- it denotes the meanings by which unceasing change has been stabilised in symbolic form. However, the imperative that '*things be brought together*' is in tension with the *centrifugal* purpose language plays in social life- this is the need for groups to preserve their distinctiveness by '*things being kept apart*'. Eco uses the metaphor of an *encyclopaedia* to describe how distinct meanings attached to a given symbol change *across* the social matrix. In representing these differences, the *encyclopaedia* can be said to serve an important *democratic function*.

Through Bakhtin, Eco is able to present a more nuanced notion of ideology- not as a form of constraining false consciousness as Bernstein suggests with his references to a '*ruler of consciousness*', but as a social practice through which communication between active subjects is made possible and meaningful. One's interactional practices within institutional codes are always a matter of choice, never a foregone conclusion. To forget this fact is, from Eco's perspective, to be guilty of aberrant coding.

A Rule which controls but which, at the same time allows, gives the possibility of inventing beyond itself by finding new paths, new combinations within the network. If the code is not only a strict germination of systems, but also a system of inference, its fate is exactly this. (Eco 1984, p.187)

6.2.3 *The nature of class struggle in a decentred society*

Eco's model of the semiotic universe as a giant ever changing encyclopaedia marks him as one who accepts the post-modern condition of *living in a universe without a heart or a centre, only with margins* (Eriksson 2000, p.3). Unlike Bernstein's (2003) three level framework, code-as-encyclopaedia has no dominating cultural principle by which it gains its form. Instead code is a form of labyrinth that one is constrained within, but also free to explore.

A code is not only a rule which closes but also a rule which opens. It not only says 'you must' but says also 'you may' or 'it would be possible to do that'. If it is a matrix, it is a matrix allowing for infinite occurrences, some unpredictable. (Eco 1984, p.187)

Given this, how does one explain the dominance of the middle classes in culture, and in educational agencies in particular? Furthermore, why might it be that lower working class children *choose* a course through the labyrinth that constructs them as 'dominated' when they could just as easily choose otherwise? In order to answer these questions one would need to consider a further concept Eco borrows from Bakhtin- that of *speech genre*.

...every age group has, as a matter of fact, its own language, its own vocabulary, its own particular accentual system that, in their turn, vary depending on social level, academic institution... (Bakhtin 1981, p.290)

Each group in Eco's encyclopaedic notion of code has its own accentual system- a particular primary genre of speech that appears in people's day-to-day conversations. All of these interacting 'voices' in the social matrix share the same fundamental goal- the exploitation of the centripetal properties of symbols to create a stable basis for communication. All wish to construct a 'home' as protection for their particular interests, whilst struggling against the 'homes' which others would foist upon them. However, not all are equal in the power of their voice in this struggle. Some speech genres will allow for a greater degree of autonomous symbolic control than others. Typical family units within these groups may encourage their children

....to display their diversity and to learn the subtleties and strategies of inter- and intra-personal control. (Bernstein 2003, p.17)

Not only are these groups more adept at steering a course for *themselves* through the code labyrinth, they are able to create paths for *others* to follow.

In Bernstein's sociological model of code, agencies of symbolic control (e.g. law, media) are positions *created* through the device of classification and framing. Under Eco's decentralised concept of institutional code, dominating agencies (e.g. class, school) *emerge* as groups use their powers of symbolic control to stabilise communication in a way that serves their own interests.

6.2.4 How closed novels construct naïve readers

It is on this basis that Eco critiques the 'closed novel' as a tool by which the educated exploit the masses for their own gain. Eco (1979) identifies several authors who encourage a simple division of labour between reader and author resembling the mechanical mode of solidarity of Bernstein's restricted coding procedures. Conan Doyle's Sherlock Holmes mysteries and Ian Fleming's Bond thrillers are couched as examples of literary institutional codes where both author and reader collude in support of the same deontic imperative. Despite various twists and turns in the plot Holmes *must* always solve the case and Bond *must* always survive. Stability is necessary for survival, and the predictable structure of these texts can be seen as promoting this morally soothing function, albeit from very different moral standpoints. In this way, the less educated are seduced into a belief that their lack of agency is a virtue upon which their security depends.

Peace, in the commercial novel, takes the form of reassurance by reiteration of what the reader expects, and, when expressed in ideological terms, it assumes the aspect of a reform which changes something so that everything will remain the same
(Vladiv- Glover 2008, p.61, my emphasis)

Commercial page-turners like Bond thrillers admit chaos and instability, but only as opportunities to re-impose the pre-existing social order. Through repeatedly gratifying the reader's yearning for stability in this way, novels create the illusion that the author's ideology (patriotism; reason; science) *are the only way* peace can be restored. By these means all paths in the code labyrinth are gradually screened from perception save that which the naïve reader is being taught to follow and accept. It is this hankering for predictability that seduces readers into accepting the author's ideology whilst, at the same time, making them vulnerable to financial exploitation.

6.2.5 *How invisible pedagogies construct naïve students*

Vladiv- Glover, however, accuses Eco of using this same exploitative strategy in his own bestselling novel *The Name of the Rose* (Eco 1980). The book's nihilistic ending is, it is said, designed to encourage readers to value the philosophical laws and historical principles which are the tools of Eco's trade as an academic and novelist.

Eco admits as much in his Postscript, where he says that "writing means constructing, through the text, one's own model reader," who may be one "standing there, money in hand, just outside the door." (Vladiv-Glover 2008, p.80)

One could argue that the standardised tests and evaluative rules of Bernstein's pedagogic device are an analogue of Eco's exploitative and controlling detective novel. The 'money in hand' in this case is the acquired knowledge which the learner has banked and by which they hope to purchase good grades (i.e. 'legitimately pedagogised' status). In a Sherlock Holmes novel, the reader's belief in the power of logic is put in jeopardy by an apparently insoluble crime- in the test paper the same effect is achieved by the challenging question. Both texts reward a naïve passive reader who has been seduced to expect a single right answer for every problem. The A-star student envisaged by the pedagogic device is, in Eco's terms, a vulnerable simpleton.

If one accepts as an imperfect but nevertheless adequate measure of students' reading ability their performance on reading tests then one has, in effect, tacitly accepted as adequate the underlying definition of reading literacy that is built into the tests, a passive conception of the reading process. (Berlak & Berlak 1981, p.266)

Both Eco's closed novel and Berlak and Berlak's comprehension tests share the characteristics of what Bernstein refers to as *invisible pedagogies* (Bernstein 1975). A *visible* pedagogy, for example a textbook, is structured so as to make the criteria for interpretation explicit. The reader (acquirer) is positioned by these criteria and led towards a single interpretation that matches that of the author (educator). Visible pedagogies are monologic because they address the ideology of the dominant collection code not the values of an individual reader.

.... the text book in turn tacitly transmits the ideology of the collection code... The text book orders knowledge according to an explicit progression, it provides explicit criteria, it removes uncertainties and announces hierarchy. (Bernstein 1975, p.29)

'Invisible pedagogies', on the other hand, are distinguished by the lack of a hierarchy between teacher and student. Detective novels and exam papers do not signal the correct criteria for the selection of knowledge- these must be inferred from a 'correct' reading of the text. The division of labour is therefore *potentially* more complex, redolent of the organic forms of solidarity that characterise the elaborated coding procedures of the middle class family. However, repeated exposure to the soothing certainty of visible pedagogies in the classroom mean that certain paths through the examination labyrinth are canalised and made more salient than others. Just as an advert has an ideal consumer it claims to benefit, so the exam paper and its evaluative rules has a particular type of consciousness it aims to reward.

These texts are potentially speaking to everyone.... they presuppose an average reader resulting from a merely intuitive sociological speculation- in the same way in which an advertisement chooses its possible audience. (Eco 1979, p.8)

6.2.6 Summary

All people within Eco's encyclopaedic notion of code are faced with the same primal paradox of Cartesian anxiety- the struggle for stasis creates a society that is constantly in turmoil. However, some speech genres allow more flexibility in the control of symbols than others, meaning that some are more powerful in this existential struggle than others. Dominant groups compose texts (e.g. novels, curricula) that present stability as reliant on a single value system (economic; scientific; political). These texts serve as invisible pedagogies that seduce the naïve into constructing their own domination. The disenfranchisement of Bernstein's lower working class is not something imposed on them- it becomes something they choose as a matter of preference. Happily, if one can choose to be dominated then one can also choose not to be dominated. This is the defining attribute of the Model reader targeted by an *'open text'*.

6.3 How can the 'yet to be voiced' be made more powerful?

6.3.1 *Heteroglossia and the 'yet to be voiced'*

As has been said, Bakhtin characterised social life as a form of struggle between groups with different interests, values and world views. Each group consequently develops its own form of speech tailored to symbolising their particular interests. From this Eco developed the notion that code is encyclopaedic in form. It follows that the meaning of any language token (word, phrase) is stratified in a mirror reflection of the changing dynamics of this encyclopaedia at any one time. This is the essence of *heteroglossia*.

Thus at any given moment of its historical existence language is heteroglot from top to bottom: it represents the co-existence of socio-ideological contradictions between the present and the past, between different socio-ideological groups in the present, between tendencies, schools and so forth. (Bakhtin 1981, p.291)

Bakhtin's concept of heteroglossia posits that symbols *always* communicate something else alongside the 'voice' of the author, because they exist simultaneously in accentual systems other than our own. Interpretive dilemmas are therefore a natural state because symbols are never exclusively ours to control and do not exclusively serve our intentions. Hence, as Bernstein argued, the 'voice' transmitted by the pedagogic device is always juxtaposed with the many 'yet to be voiced' meanings of its students.

..the word does not exist in a neutral and impersonal language (it is not, after all, out of a dictionary that the speaker gets his words!) but rather it exists in other people's mouths, in other people's contexts, serving other people's intentions. (Bakhtin 1981, p.294)

6.3.2 *Open texts and decentring the naïve reader's world*

Closed texts are cast by Eco as a form of epistemological hypnotism, seducing the anxious naïve reader into believing there is an underlying order that gives the world its meaning. As institutional codes, these novels shape consciousness so that the labyrinth of the text is (falsely) perceived as a maze that one follows to a predetermined moral centre. Their 'voice' is essentially one of the past- it is an historical record of the purpose the author originally had in mind as s/he sat down to write. Exam success is premised on the ability of a reader to accurately construe this purpose from an analysis of print.

An *open text*, such as Joyce's 'Ulysses', is written in such a way as to disrupt the 'predictive indolence' into which the naïve reader has been lulled. Its purpose is to make salient the *possible worlds*- the 'yet to be voiced'- available to the reader as they contemplate each twist in the plot. Paradoxically, the open text does this by rejecting the absolute claim to truth of its own language.

Open texts set out to generate their reader(s) as part of the process of the text itself by discouraging the reductive readings characteristic of closed texts that aim at arousing 'a precise response on the part of more or less empirical readers' (Trifonas 2007, p.269)

To achieve this effect the author inserts *strategically selected* aspects of heteroglossia into the structure of the narrative, so creating conflicting viewpoints from which events must be viewed *simultaneously* if their full implications are to be understood.

... language diversity [dialects] of language upon entering the novel establishes its own special order within it and becomes a unique artistic system which orchestrates the intentional theme of the author. (Bakhtin 1981, p.298, my emphasis)

This is a device used by Penelope Lively, author of *The Ghost of Thomas Kempe*, the text that featured in the critical incident outlined in Chapter One. In a radio interview (Swaim 1988), Lively explained that her novel was geared to exploring the predicament of knowing something to be true (e.g. ghosts exist) that all others know to be false. Indeed it was an inability to grasp a decentred world of multiple truths that underpinned the students' mundane interpretations of 'snappishly'. They seemed unaware that James and his father attached different values to the same experience (the broken alarm clock).

A text becomes open, therefore, through the orchestration of heteroglossia to achieve a given end. Conflicting but equally valid orientations to meaning position the reader in a dilemmatic space geared for humour, suspense and so on. Open texts become open when the reader and author are revealed to be no longer different moments of the same mind but are *different minds in the same textual moment*. The egocentric world of the reader is pierced, opening up a *potential discursive gap* between themselves the writer. At the same time, the text itself also undergoes a transformation from a *mundane* concrete object to a *transcendental* world of possibility. In this way the unthinkable is made available.

6.3.3 Open texts and ideological strain in the naïve reader

Penelope Lively's open novel, though skilfully written, failed to have any observable effect on the students in the critical incident described in Chapter One. This raises an important question regarding the reception of such works. *How does one get the naïve reader to notice the choices afforded them through the artistic system of an open text?* Eco's naïve reader, like Bernstein's lower working class child, does not have the effectivities to realise the full affordances of a text owing to the psychic defences on which their naivety has been cultivated.

An open text, however open it be, cannot afford whatever interpretation.... The naïve reader will be unable to enjoy the story (he will suffer a final uneasiness)
(Eco 1979, p.9-10)

Eco's solution is to stimulate ideological strain in the naïve reader as a targeted strategy. The author writes his novel not as a broadcast but as a message addressed directly to a Model reader who clings to a certain absolutist moral principle (capitalist; positivist; materialist). The aim is to alert the reader to the strength of classification they are applying to the text by deliberately frustrating the ideology that legitimates it. The open text is

... aimed at giving the Model reader the solutions he does not expect, challenging every overcoded intertextual frame as well as the reader's predictive indolence.
(Eco 1979, p.33)

Eco (1990) achieves this through a device he refers to as a *ratio difficilis*. This is a juncture in the text where the reader's expectation of what is supposed to happen is anticipated and deliberately wrong-footed by the writer. With the moral calculus of their own code frustrated, readers must put this orderliness in jeopardy by *balancing* it against possible counter perspectives offered by the writer (Eriksson 2000, p.14). To make sense of the situation the reader invents a code for interpretation that is novel from their perspective but has been foreseen by the author (Lewis 1985). Whereas Bernstein's code is a positioning device that transmits a dominant principle, the *ratio difficilis* is a positioning device that weakens this principle. It positions the sign interpreter as one

....who must adapt or invent the codes that will enable them to "read" a continuum of experience which has so far been segmented or shaped insufficiently for representing a specific content in a specific situation (Lewis 1985, p.508)

6.3.4 *How invisible pedagogies transform the naïve reader*

Jameson (1976) makes a direct comparison between the sort of transgressive, code violating novels described by Umberto Eco and the turn to post-structuralism in sociology. Prior to the experimental novels of Proust and Joyce, bestselling fiction sought to typify and exemplify social norms in a way that appealed to readers' need for order and predictability- Jameson refers to these novels as '*sociology textbooks*'. The advent of the transgressive novel was motivated by authors' ambitions to communicate a different model of society to the reader and followed a very different textual strategy.

The novelist who chooses this second strategy must construct his plot, less as a guided tour than as a hunting expedition, in which traps are laid, feints are rehearsed, a whole apparatus marshalled in view of an event which may or may never occur.... the triggering of the snares, the slow emergence into visibility of the elusive sense of society as law. (Jameson 1976, p.123, my emphasis)

Jameson argues that Erving Goffman's work effected the same change in sociology as did the transgressive novel in literature. Unlike exemplary instances of communication, Goffman reasoned that misunderstandings causing anxiety or embarrassment are snares that reveal people's '*unthinking recourse to procedural forms*' (Goffman 1983, p.6). It was through these breakdowns in social order that the rules underpinning that order could be made the objects of study. This same logic can be seen in the '*breaching experiments*' of ethnomethodology, a branch of the social sciences which suggests that the rules of social life are tacitly constructed by people in the course of their interactions (Woofitt 2005). Breaching experiments.

.... involve the conscious exhibition of "unexpected" behaviour, an observation of the types of social reactions such behavioral violations engender, and an analysis of the social structure that makes these social reactions possible. (Rafalovich 2006, p.156)

Bernstein (2003) describes a similar effect concerning visible and invisible pedagogies. For some children the visible pedagogies of schooling (i.e. teacher instruction) and those of home life (i.e. parental instruction) express contradictory theories of learning. These theories are inculcated as competing grounds against which symbolic structures contained in an invisible pedagogy may be interpreted. When reading a story at home, therefore, a child may

inadvertently breach the family code by voicing certain school-like interpretations that his or her parents deem irrelevant or even immoral. From the child's perspective, both the authority of the school code and that of the family are interrupted- each is held in balance *if the interpretive dilemma emerges and is managed*. Through this process the child is transformed, moving from a naïve concept of the text as self-contained to a more nuanced position where its competing ideological potentials come into view.

Where this occurs the child's behaviour is being shaped by conflicting criteria. From the point of view of the teacher, the child becomes an innovating message to the home. The invisible pedagogy is not only an interrupter system in the context of educational practice, but it also transforms the child, under certain conditions, into an innovating message to the family. (Bernstein 2003, p.121)

The difference between Eco's transgressive novel and Bernstein's invisible pedagogy is that a ratio difficilis of conflicting criteria for interpretation is not left to chance. Instead it is foreseen as part of the author's pedagogic strategy, one by which they hope to construct a reader fully awake to the complexity of the code labyrinth and the seductive power of moralising ideology. A dilemmatic pedagogy based on this principle, therefore, may be capable of transforming the child into an innovating message for the school.

.....the effect of a violation of codes in a work of art is to focus attention first on the structure of the work itself then on the codes which the work employs and finally on the relationship between the codes and reality, this generating in the reader or viewer a renovated perception of him or herself and the world. (Robey in Eco, 1989, p.xxiv)

6.3.5 Summary

If an invisible pedagogy is to stimulate an interpretive dilemma it must target the particular moral values upon which a naïve student's logical certainties have been constructed. Prototype dilemmatic pedagogies that are not addressed in this way might initially serve as a form of breaching experiment by which these values can be made the object of study and identified.

6.4 How is symbolic control achieved if there is no 'code'?

6.4.1 Eco's appropriation of C.S. Peirce's triadic sign form

In the ratio *difficilis*, Eco identifies a device that can be addressed to particular types of naïve reader (fan of detective novel; fan of thriller) with the intent of transforming them into a Model reader who is aware of, and so can choose between, the almost infinite 'yet to be voiced' possibilities offered by a text. This part of his theory, though, does not in itself describe how this new orientation to symbols comes about. How does the disoriented reader construe possible *future* meaning potential when there is no known ground rule in the *present* upon which such textual productions can be formulated? How is it that readers can autonomously symbolise a new code when code itself is a prerequisite for symbolic control?

In exploring this paradox, Eco (1979) adapted (rather than adopted) Charles Peirce's triadic sign as a central plank of his theory regarding construction of the Model reader. Peirce (1934) maintained that symbol meanings evolve through use and are in a constant state of flux referred to as *semiosis*, shown overleaf in Figure 13.

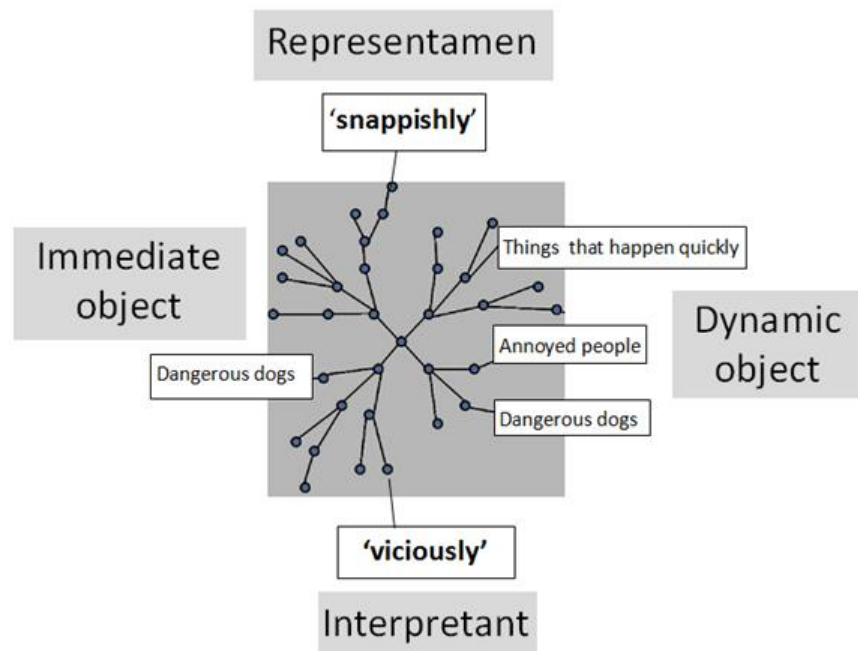


Figure 13 Peirce's triadic sign based on Eco (1979)

The representamen is essentially the token form of the sign that is encountered in a text- in the critical incident in Chapter One, '*snappishly*'. This *representamen* relates to an object. In his appropriation of semiosis, Eco (1979) describes the *dynamic object* not as a physical thing but rather as a collection of ideas, laws or concepts associated with the symbol through previous experiences. Eco (1984) suggests that for communication to be possible, the dynamic object must be 'focussed' through the selection of the particular *immediate object* (e.g. dangerous dogs) that is judged to match the *values* that prevail in a given social situation. The closer this match, the less elaboration is needed to achieve mutual understanding between parties.

The object is something that is either well known to both utterer and interpreter in a communicative exchange, or else it must in some way be displayed or explained in such a manner that the interpreter is capable of determining its identity to a relevant degree.
(Bergman 2005, p.223)

This effort at focussing is put in an expressible form in the shape of an *interpretant* (e.g. the token '*viciously*'). However, because the interpretant is itself a sign, it is also in semiosis, and so linked to further interpretants that are themselves in semiosis, and on into infinity. On this basis, Eco argues that signs incorporate all the texts into which they could be inserted, and so are governed by the same interpretive logic as texts.

A theory of text generation and interpretation and a general theory of signs thus prove to be mutually consistent. The reader plays an active role in textual interpretation because signs are structured according to an inferential model. (Eco 1981, p.44)

6.4.2 How the strain of interpretive dilemmas is symbolised

Eco's key innovation is to transplant Bahktin's dialogic conception of social life into Peirce's triadic sign concept. Rather than a dictionary-like taxonomy of the unifying laws of Nature, as assumed by Peirce (Lane 2009), the dynamic object embodies the cleavages of heteroglossia. It represents the '*encyclopaedia*' of deontic codes encountered in social life that have come to be associated with a given symbol (Eco 1979). Within Peirce's original realist conception of signs, a lie is always a lie because the true state of affairs is ultimately knowable (Johansen 1995). With a dialogic conception of the linguistic sign, a lie can be recognised as such in the *mundane world* of one's own experience, but also

accepted as true in a *possible world* presented by the experience of another. Fantasies like *Thomas Kempe* rely on this phenomenon for the willing suspension of disbelief.

There are possible worlds that sound nonverisimilar and scarcely credible from the point of view of our actual experience, for instance, worlds in which animals speak.
(Eco 1990 p.76)

Historical accounts, such as those in Vansledright's (2002) '*starving time*' incident, also have this property.

....a good encyclopaedic representation of a 'whale' should record at least two contextual selections: in a context dominated by the sememe 'ancient' a whale is a fish: in the context dominated by the sememe 'modern', a whale is a mammal.
(Eco 1979, p19, my emphasis)

In both cases the strain posed by the interpretive dilemma is not minimised but managed. The reader does not choose between interpretations but *balances* both in the same utterance. Through giving consideration to a 'truth' that we know to be a lie we violate our own ideological code but come to understand the ideology of the 'other'. It is in making such a speculative leap that a new orientation to symbol meaning is achieved.

6.4.3 Abduction and the fixation of new beliefs

The ratio *difficilis* creates a strain from which new orientations to meaning may *potentially* evolve, but this is far from inevitable. This is because, as has been said, any institutional code operates on a moral not a mathematical calculus. One's next step in the labyrinth is not determined by its objective validity but by the degree of its deontic 'rightness'. In other words, one can reveal to a reader the 'yet to be voiced' afforded by a text, but cannot guarantee their dynamic intention to put the dominant code in jeopardy in order to signify its import. Eco (1979) recruited Peirce's *methods for fixation of belief* to explicate the different responses possible when a reader is faced with a ratio *difficilis*. Peirce (1934) originally described four procedures, each of which can be applied to the critical incident recounted in Chapter One, as in Table 10, overleaf.

The first three methods correspond to Helsing's (2007) strategies for dilemma minimisation. In effect, they represent ways that the implications of a ratio difficilis can be avoided. *Tenacity* is minimisation by denial, an effort by the reader to persist with an interpretation that is not supported by the data. *Authority* is minimisation by recourse to rules and laws, for example those set out in dictionaries and study guides. Finally, *a priori* is minimisation by attribution, namely that the ratio difficilis signals a mistake rather than an opportunity to learn something new. As has been said, a restricted orientation to meaning can draw on a spectrum of ideological and moral commitments

Tenacity	Holding onto beliefs in the face of contradictory evidence.	E.g. each student in the group stuck to their interpretation of 'snappishly' despite counter arguments from their peers.
Authority	Accepting beliefs from credible authority figures or institutions rather than developing one's own beliefs.	E.g. the students were happy to abandon their interpretations in favour of a 'right answer' provided by an adult.
A priori	The appearance of carrying out an inquiry when, in fact, the outcome has been predetermined.	E.g. the students held to the belief that of the multiple interpretations offered, all but one must be wrong.
Experiment	Genuine inquiry, constructing novel inferences through creative abduction.	E.g. A student may have made the 'playful' and perhaps deviant suggestion that the word has supernatural connotations and relates to a spell that has been cast.

Table 10 Peirce's (1934) four methods for the fixation of belief, based on pp.233-247.

It is only when the reader engages in *experimentation* that new beliefs are elaborated from the text. Peirce saw experimentation as exceptional because it is the one method where feelings of surprise and frustration are tolerated rather than diminished. Given a lack of data or prior experience that can explain the ratio difficilis, a speculative leap is made from fact to law-something referred to as *abduction*.

This faculty [abduction] is at the same time of the general nature of Instinct, resembling the instincts of the animals in its so far surpassing the general powers of our reason and for its directing us as if we were in possession of facts that are entirely beyond the reach of our senses. (Peirce 1934, p.107 my emphasis)

Experimentation is also the only procedure for fixation of belief that involves rejection of the moral commitment by which logical reasoning normally proceeds. One is *knowingly telling a 'lie' in the hope it might be true*. This is because the novel interpretation of the symbol must be acted upon *as if there was a dynamic object drawn from concrete experience that could be focussed in this way*. It is on this basis that Eco argues for novels as a tool for creating new ideological insight- that a hypothesis gained through abduction

...while being, from a semiotic point of view, the possible object of a concrete experience, it is, from an ontological point of view, the concrete object of a possible experience (Eco 1979, p.193)

Fixation of belief by experimentation explains the extraordinarily courageous (or outrageous) leap of faith required of students who are encouraged to move from a restricted coding procedure (strong a priori criteria) to an elaborated procedure (indeterminate criteria). Alas, it does not typify the emotional climate in which such a gamble would likely be made public.

6.4.4 Summary

Fixation of a new belief, and therefore a new elaborated orientation to meaning, is only possible in circumstances in which the moral principle of a given institutional code is violated by the speculative telling of a 'lie'. This is difficult enough for the lone subject that Eco is discussing- the isolated reader thumbing through a paperback. Such risk-taking is quite a different matter in the collaborative, problem solving, classroom context observed by Gresalfi et al (2012) and discussed in the early formation of the domain theory germ (see subsection 4.8.2). These contexts are what Goffman would refer to as '*focused gatherings*'- constellations of individuals temporarily clustered around a *joint focus for attention*. The 'rules of relevance' for these gatherings are not drawn from an a priori structure (as with mechanical forms of solidarity) but evolve through attempts to sustain a mutually agreed definition of the situation

(organic solidarity). As with Eco's analysis of institutional codes, rules taken to be objective and 'true' in these gatherings are often little more than moral judgements.

These rules for the management of engrossment appear to be an insubstantial element of social life, a matter of courtesy, manners, and etiquette. But it is to these flimsy rules, and not to the unshaking character of the external world, that we owe our unshaking sense of realities. To be at ease in a situation is to be properly subject to these rules, entranced by the meanings they generate and stabilize (Goffman 1997 p.138)

A dilemmatic pedagogy which prompts the naïve student to break this spell in a public arena asks much of both the individual concerned and his/her peers. Experimentation and abduction in classrooms involves the gambling of status and good character. It invites sanction through condemnation or ridicule whilst promising nothing in terms of locating useful new perspectives on a problematic situation.

To be ill at ease means that one is ungrasped by immediate reality and that one loosens the grasp that others have of it. To be awkward or unkempt, to talk or move wrongly, is to be a dangerous giant, a destroyer of worlds. As every psychotic and comic ought to know, any accurately improper move can poke through the thin sleeve of immediate reality. (Goffman 1997 p.139, my emphasis)

The designer of the dilemmatic pedagogy, therefore, would need to foresee not just the moral principle by which order is maintained, but anticipate and mollify the likely stakes for those brave enough to violate it.

6.5 A domain theory of interpretive dilemmas

6.5.1 Rationale for this iteration

As Vansledright (2002) discovered, a key difficulty in designing any pedagogy is forecasting its modes of reception. With this in mind, the quote from Hotam and Hadar, discussed in Chapter Four, bears repeating here:

How to increase effective education by narrowing the gap between what teachers would like to unpack in class and what students actually experience is a profound pedagogic question (Hotam & Hadar 2013, p.394)

The value of Eco's sociology of reception is that it allows the concept of addressivity to be incorporated within the domain theory. It describes two basic types of Model readers to whom a dilemmatic pedagogy can be addressed- one *naïve* the other *ideal*- as in Table 11, below. Examples drawn from the 'snappishly' critical incident recounted in Chapter One have been used to clarify the distinctions that are being made in this iteration of the theory.

Educational Label	Coding procedures			Model Reader
	Textual production	Orientation to meaning	Interactional practice	
At risk	It means <i>angrily</i> : <i>Dogs snap when they're mad</i>	<i>Symbols should make sense in terms of logical relations in the world</i>	Fixation of belief that preserves deontic code: <ul style="list-style-type: none"> • Tenacity • Authority • A priori 	Naive
On target	It means <i>irritably</i> : <i>It says in the story his parents were irritable.</i>	<i>Symbols should make sense in terms of logical relations within the text</i>		
Gifted and talented	It means <i>accusingly</i> : <i>Dad thinks James is causing all the damage</i>	<i>Symbols can lie. What I know to be true may also be false.</i>	Fixation of belief that violates deontic code: <ul style="list-style-type: none"> • Abduction • Experimentation 	Ideal

Table 11 Typology of readers to whom the dilemmatic pedagogy may be addressed

The Year 7 students directly involved in this incident were in what Bernstein (1990) refers to as a 'repair system'. Their test results in the previous summer had been poor and they were judged to be attaining at below age expectation. As Primary National Strategy consultants we labelled such children as being 'at risk'.

These students' attempts at defining '*snappishly*' were mundane in the sense that they were not drawn from the imaginative world of the novel, but largely from their own experiences of a concrete world. The deontic orientation of this institutional code could be phrased as- *Symbols should be oriented to as if anchored in ordered experience*. In Eco's novel, *Name of the Rose* (1980), this type of reader is personified by Adso, the book's fictional narrator. Being an apprentice monk, he fits the disparate clues of the murder mystery to the Divine Plan of the apocalypse as set out in the bible. This is *fixation of belief by authority* because Adso defers to the theories of others rather than construct his own from the evidence in front of him. Similarly, the Law of Nature dictates that dogs sometimes snap, but that is not to say this rule can be legitimately projected onto Lively's fantasy story.

The '*on target*' student is one who, from the point of view of a consultant, complies with the regulative discourse of literacy provision. S/he attends closely to and selects particulars of print from which logical and plausible deductions can be made. In this case the token '*irritably*' was connected to '*snappishly*' in order to infer a logical meaning for this unfamiliar term. The deontic orientation of this institutional code could be phrased as- *Symbols should be oriented to as if bound together in a logical system*. In *Name of the Rose*, this type of reader is personified by Eco's fictional sleuth William. His scientific technique is contrasted with the unthinking faith of Adso, casting the latter as a form of illiterate. William is an empiricist- a 'text detective' of the type commonly promoted in cognitivist reading research (e.g. Souvignier & Mokhesgerami 2006). Here *fixation of belief is by a priori*, namely the assumption that the clues can be connected only within a single system of logic.

In *Name of the Rose*, Adso is portrayed as an innocent whose blind faith leads him to misinterpret all he sees; William a proto-scientist whose appeal to reason allows him to transcend authority and see the truth. In educational terms the former is '*at risk*' and the latter '*on target*'. The pedagogic objective of Eco's novel *appears* to be the transformation of the novel reader from the former

state to the latter. This is also the aim of those research traditions with roots in experimental psychology. A cognitive paradigm posits reading comprehension as transformation of print into a parsimonious mental model that preserves its overarching logical relations (e.g. Kintsch 1988; Graesser et al 1994; Zwaan & Radvansky 1998; Rapp et al 2007). Individual differences in interpretation are explained in terms of readers' varying '*standards of coherence*'- their disposition to detect and repair logical incompatibilities that are encountered as this memory structure is built (van den Broek et al 2005). 'At risk' students, or 'poor comprehenders', are judged unable to establish and maintain clear and coherent logics that connect what they see with what they think (Cain & Oakhill 1999). Often, their prior experiences are seen to distort the meaning of a text, leading them to misconstrue or omit key inferential 'clues'. In the eyes of these researchers, therefore, '*at risk*' and '*on target*' students are qualitatively and quantitatively different. They behave differently when reading in terms of their eye movements (e.g. Nation et al 2006) and comprehension strategies (e.g. McGee & Johnson 2003) and so score differently on standardised measures of reading attainment (e.g. Nation 2005).

Yet from Umberto Eco's perspective this is a false distinction- *both types are Model readers constructed by closed texts*. They are both naïve because both subscribe to the same dualist notion of texts as discrete knowable entities- neither sees the text-as-labyrinth as Eco describes it. From his perspective, learning to see and follow a path as intended by an experimenter is a demonstration of one's vulnerability to seduction- one's need to be led and to follow. Seen in this light, the 'correct' response '*snappishly means irritably*' is simply an empirical accident- knowledge that is stumbled upon on a path already laid by regulative discourse and repetition. Hence, although these students' contrasting textual productions are grounded in different deontic orientations (the value of prior knowledge versus empiricism), they are both justified through *practices for the fixation of belief that preclude experimentation*.

Eco's *ideal reader is the Model reader constructed by open texts*. In *Name of the Rose*, this type is personified by Jorge, the villain of the story who finally outwits both protagonists. He does so by guessing the detectives' ground rules for interpreting clues and then scattering a trail of red herrings designed to seduce them further into these delusions. In other words, Jorge is able to *balance* a lie (*the clues have meaning*) against a known truth (*the clues were chance occurrences*). These skills in symbolic control allow him to find a new position in the interpretive space, moving from hunted to hunter. Similarly, the student who interprets '*snappishly*' as '*accusingly*' can see how a lie (*James broke the clock*) may also be true (*James is an unreliable narrator*). Like Jorge, this ideal student is able to understand and anticipate the orientations of an 'other' by experimenting with new positions whereupon the lies they are told begin to make sense. The Model reader of an open text does not decode it so much as enter into a critical, hermeneutic relation with it.

This is a very different conception of literacy from that promulgated in experimental psychology- one that has much more in common with the DfE's stated ambition that students be '*authors of their own life stories*' (DfE 2010, p.6).

Bakhtin feels that this dialogic interaction between self and other and the incorporation of the latter's conceptual horizon to one's own perspective is a vital stage in the maturation of an individual's self-consciousness...This authoring of the self necessarily involves a projection into the consciousness of the other. (Gardiner 1992 p.39)

It is this speculative '*projection into the consciousness of another*' that both rewards fixation of belief by experiment and also makes it so perilous. New powers in the self-control of meaning may be acquired, but only if one is prepared to upset the illusion of stability that one's own deontic orientation demands. This, it should be said, is not a relativist notion of literacy. The construction of such a reader does not negate the importance of seeing the path set down by an examiner and knowing how to follow it. The point is that the ideal reader can recognise, and so *choose* to comply with or resist institutional codes as they see fit. *They construct their compliance whilst keeping deviance in full view.*

This is the post-structuralist conception of reading advanced in New Literacy Studies (NLS), an ethnographic field of research which focuses on examining how power and meaning are embedded in social practices (Street 1984). Cognitivist modes of literacy research, such as those referred to above, are posited as a type of ideological pseudo-science- one that can have unpredictable and damaging effects when foisted upon the 'poor' and 'illiterate' (e.g. Bartlett 2008). The NLS tradition holds, as does Eco, that a conception of 'literacy as science' panders to the need of the naïve for certainty, rewarding them with labels that further seduce them to powerlessness (Street 2011). In this sense, the '*at risk*' students who populate Whitty's '*long tail of underperformance*' may be just as clever (or naive) as their '*on target*' peers. This, *au fond*, is the premise behind Bernstein's sociological analysis of educational inequality.

6.5.2 Second domain theory iteration

The revised domain theory, combining Eco's sociology of reception with Bernstein's sociology of transmission, is shown below in Figure 14.

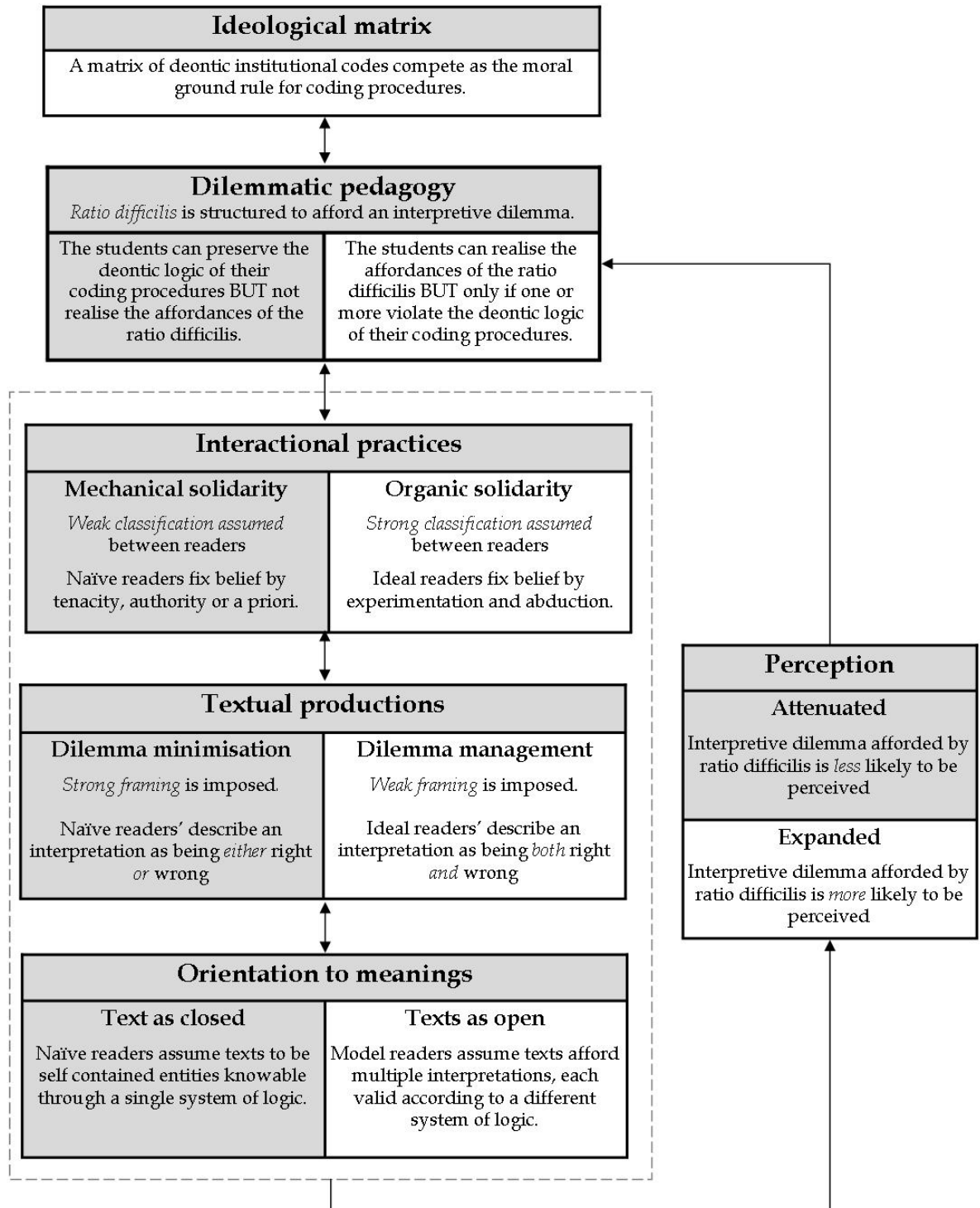


Figure 14 Second domain theory iteration combining Eco's sociology of reception with Bernstein's sociology of transmission.

6.5.3 *Ideological matrix*

Bernstein's *sociological* notion of ideology as constituted in and through the creation of *codes* has been modified to accommodate Eco's *semiotic* concept of ideology as a form of *institutional code*. Readers associate different deontic institutional codes with the reading of fiction. These institutional codes define what they personally feel they can be morally called upon to contribute and believe in the context of reading. These deontic codes are symbolised by individuals through their previous interactions across multiple agencies. Hence, *institutional codes* do not correspond directly to Bernstein's notion of *code* but are posited here as indexes of them. They express the moral values that have come to be associated with a given interactional practice through an individual's repeated carrying out of that practice across multiple agencies (family; school). Structures (codes as positioning devices) could possibly be inferred from an analysis of these institutional codes, but they are not in themselves a form of social structure. They are more accurately described as the persistent relations and ground rules that a person has come to associate with a given form of cultural activity across different settings. It is in this sense that the domain theory responds to the critique from Geertz that macro-social theories take no account of how ideology is symbolised by the individual.

When students collaborate in the interpretation of a text, one institutional code will emerge as the dominant ground rule for a group's coding procedures. However, this always in tension with others in the matrix and so is vulnerable to violation.

6.5.4 *Dilemmatic pedagogy*

Eco's notion of the *ratio difficilis* allows the operation of the proposed pedagogy to be loosely specified. It suggests how an invisible pedagogy could be designed so as to stimulate interpretive dilemmas when targeted at a particular type of dominant institutional code for reading. The pedagogy is a form of *open text addressed* to an *ideal* reader. This dialogic aspect of the design is a response to the critique that Bernstein's concept of code is monologic in tone.

6.5.5 Interactional practices

Eco's appropriation of Peirce's triadic sign form and methods for fixation of belief specify a range of interactional practices by which mechanical solidarity might be achieved and maintained when a group of students read together. Naïve readers achieve mechanical solidarity through fixation of belief by tenacity, authority or a priori. In doing so, they assume a weak classification between their moral principles and those of their peers. More importantly, perhaps, Eco's account of experimentation and abductive reasoning provides the logical and emotional basis by which a switch to organic solidarity is achievable in group reading activities. Creative abductions violate the monopoly of the dominant moral principle through a strengthening of the classification between peers, and between peers and the author of the pedagogy. This may lead to one or more students adopting the role of deviant as a means of communicating this intent to others.

6.5.6 Textual productions

Naïve readers will minimise dilemmas by describing each other's interpretations as factually correct or incorrect. This may involve exchanges marked by short statements, negations, and confirmations. Ideal readers will manage dilemmas through exchanges that explicate conflicting logics- hence the exchanges may contain more explanations and justifications. Deviants may try to save face through disguising tentative interpretations as jokes or deliberate mistakes. Eco's theory, therefore, imports a more nuanced concept of textual productions into the domain theory- one centring on the distinction between a mistake (breach of logic) and a lie (breach of good conduct).

6.5.7 Orientation to meaning

Naïve readers assume that a truthful interpretation can be proven given enough supporting evidence- here texts are constructed as *closed* in their meaning. Ideal readers are reluctant to finalise their interpretations because multiple valid interpretations are always possible- here an *open* text is constructed. The important point is that a text isn't open or closed per se, but affords the means for a potential change in orientation.

6.5.8 Perception

Naïve readers' coding procedures strengthen the perception that their *local* dictionary can also serve as a *universal* dictionary. Cleavages and tensions presented by subsequent ratio *difficilis* are therefore made less salient. The coding procedures of ideal readers strengthen perception of texts as encyclopaedic in their meaning potential. This serves to make a ratio *difficilis* more salient in future.

6.6 Implications and next steps

Chapter Five concluded that a *sociology of reception* was needed to complement Bernstein's *sociology of transmission* if the disadvantaging effect of the pedagogic device is to be countered by the proposed design. This chapter argued that narrative texts can be structured as a form of literary breaching experiment. These open texts have the potential to serve as invisible pedagogies that mediate changes in coding procedures and orientation to meaning. However, there is barrier to achieving this that harks back to Shotter and Lock's (2012) analysis of code and embodied anticipation.

Shotter and Lock's reading of Bernstein was centred on the concept of a '*language body*'. They refer to Bernstein's parent-child dyads as contexts where *corporeal modes* of meaning predominate. Speech and gestures are first contextualised by concrete objects in the environment, providing a '*ground floor of perceptually objective experience*' from which textual productions and coding orientations subsequently evolve. The implication is that naïve readers cannot bootstrap their own change of orientation to meaning through symbolic means alone. Instead, a *re-education of attention* is first needed that reorients the reader to *objects* as a precursor to reorienting them to *symbols*. If a restricted orientation was initially constructed by embodied activity, a change to an elaborated orientation must also take the same path- one cannot do it in the abstract alone as Eco suggests.

Shotter and Lock prescribe situations where material objects are configured so as to reject the meanings that individuals try to project onto them.

Constellations of objects are made that *object* to the learner's values- they '*bite back*' (Engestrom & Blackler 2005, p.310), so stimulating a change of embodied anticipation toward them. An example of this can be seen in a breaching experiment carried out by Ramduny- Ellis et al (2008). In this study a group of product designers were given a brief to design a torch but were provided with very limited and rudimentary resources with which to work. The authors observed that the inability of these concrete materials (e.g. paper, plasticine) to support their technologically sophisticated work practices forced the designers to reinterpret the task and focus on aspects of the problem that may otherwise have been ignored. By neutralising their design experience, the breaching experiment made the familiar strange and open to novel interpretation. The emphasis on group work rather than individualised tasks was important because it afforded possibilities for person-oriented renegotiation of the values that can reasonably be attached to physical objects. Thus

We must, even as adults treat ourselves as first language learners....still having to make evaluative and contextualised judgements in determining what they should be for us in ways that are intelligible and useful to others sharing the context with us. (Shotter & Lock 2012, p.76)

This suggests that Eco's conceptualisation of reading as a solitary, symbolic activity is insufficient to meet the aims of the thesis. Instead, one would have to design a *ratio difficilis* that is distributed across a concrete situation, one addressed to the particular values of a given social group. Shotter and Lock reference Vygotsky's double stimulation methodology as an example of such a design and it is to this that the penultimate chapter in this section now turns.

Chapter 7 How can response to interpretive dilemmas be materially structured?

This chapter applies Vygotsky's methodology of double stimulation to the design and research of an invisible pedagogy (Bernstein 1975) aimed at inducing interpretive dilemmas through concrete activity.

7.1 The influence of Vygotsky on Bernstein's programme

It should not be forgotten that Vygotsky was a crusader for handicapped children and their right to social education, a belief he had held long before arriving at the method of double stimulation. (van der Veer & Valsiner 1991, p.169)

Although Basil Bernstein did not identify working class children as handicapped, his theories of code and the pedagogic device that form the basis of the domain theory owe a substantial debt to Lev Vygotsky's emancipatory programme- Bernstein is known to have written to Vygotsky's widow in 1964 to this effect (Daniels 2012). Perhaps the most obvious of these influences is Vygotsky's *genetic law* of development. In simple terms this states that consciousness has its genesis in patterns of interaction that are later internalized as mental functions.

...the underlying claim is that in order to understand higher mental functioning on the intrapsychological plane, one must conduct a genetic analysis of its interpsychological precursors. (Wertsch 1985, p.61)

This movement from social to psychological plane is evident in Bernstein's pedagogic device- its discursive, recontextualising and evaluative rules ultimately constitute a ruler of consciousness. The genetic law is also paralleled by Bernstein's theory that the modality of communicational forms (i.e. the degree to which they are elaborated or restricted) has a subsequent effect on perception of the world held by children of different social classes. In both cases Bernstein saw symbols and their control as the central means by which psychological changes are effected. This parallels another key assumption of Vygotsky's, namely that linguistic symbols serve as a mediational means for the formation of consciousness.

Consciousness is reflected in the word as the sun is reflected in a droplet of water (Vygotsky 1934, p.9 cited in Wertsch 1985, p.194)

In cultural historical terms, words are cultural artefacts that express the accumulated knowledge of previous generations (Cole 1998). The distributed cognition captured in a language system acts as ... *a kind of ski-lift for development* (Wegerif 2011b, p.204), allowing learners to 'bootstrap' their understanding of concepts beyond that that would be possible solely through their lived experience. On this basis Vygotsky posited that the key to understanding conceptual development lies in symbols and observing how they are brought under control by individuals. Hence, symbolic mediation in parent-child dyads is a distinguishing feature of developmental research in this tradition (e.g. Perinat. & Sadurní 1999).

However, his method of double stimulation went beyond simple observation and was also concerned with intervention. Vygotsky emphasised the importance of signs as *tools* that can be designed so as to remediate the way stimuli, including other signs, are responded to.

Vygotskij's approach was characterised by the idea that the relation between stimulus and response has to be remediated... If new signs mediating stimulus and response can be integrated successfully into the structure of behaviour, the handicap becomes more or less obsolete (Seeger, 2005, p.68)

The idea that signs (e.g. icons, indexes and symbols) can restructure what might be construed as aberrant behaviour was at the heart of Vygotsky's experimental method and has formed the basis of subsequent remedial intervention programmes- for example Feuerstein et al's (1980) Instrumental Enrichment. In this sense, he was concerned with the same problem as that discussed at the conclusion of the previous chapter- the restructuring of interpretive behaviour by means of concrete activity.

7.2 Vygotsky's experimental methodology

7.2.1 Origins in Gestalt psychology

Vygotsky's conviction that signs can construct mental functioning 'from the outside' can be traced to the Gestalt experiments of Kurt Lewin. Lewin showed that people faced with *abstract* situations will recruit *concrete* artefacts to help them to decide how to act. For example, a person told to sit and wait for an

unlimited time will use a clock to set deadlines after which they will give up and leave. Hence

By changing the psychological field, the subject created a new situation for himself in this field. He transformed the meaningless situation into one that had a clear meaning.
(Vygotsky, 1987 cited in Engestrom 2011, p.611)

However, Vygotsky was critical of Gestalt's assumption that the mere ability to distinguish optical phenomena correlated with intelligence (van der Veer 1994). He argued that, compared to animals and primitives, educated people rely less on perception of visual properties innate to a given environment and more on the verbal concepts by which selected aspects of that environment are made salient. In other words, intellectual development concerns inhabiting a semantic *Welt* rather than coming to understand a single shared physical *umwelt* (van der Veer 1994). The transformation of *umwelt* to *Welt* is the object of study in Vygotsky's double stimulation research.

7.2.2 Double stimulation

Vygotsky developed his experimental method of *double stimulation* as a way of observing how word meanings evolve 'live'. As the name suggests, stimulation took two forms- one *concrete*, the other *semiotic*. His thesis was that a *neutral sign* provided by the experimenter will gradually evolve into a *concept* (or *symbol*) when used to impose order on an apparently senseless concrete situation. Through observing changes in how this sign-tool was used, Vygotsky was able to infer the process by which entirely novel symbols gain meaning.

In such cases a neutral object is placed near the child and frequently we are able to observe how the neutral stimulus is drawn into the situation and takes on the function of a sign.....in this way we are able to study the process of accomplishing a task by the aid of specific auxiliary means. Thus we are able to discover the inner structure and development of higher psychological processes. (Vygotsky 1978, p.74)

The term 'double stimulation' encompasses several experimental designs, for example the '*forbidden colours task*' (Leont'ev 1931). However, Towsey (2009) argues that both the 1962 and 1986 versions of *Thought and Language* imply it is synonymous with the *wooden block task*, developed by Leonid Sakharov under Vygotsky's supervision (Sakharov 1994).

7.2.3 The wooden block task

Although Sakharov (1994) gives a full account of the debt owed to his predecessors (e.g. Aveling (1912) and Ach (1921)), he provides few details as to the conduct of his task or the results obtained. Towsey (2009) therefore refers to Jacob Hanfmann and Kasanin's (1937) specifications in providing the following details.

The task involved two types of stimuli: one a *neutral linguistic sign* in the form of nonsense words, (*mur*, *cev*, *bik* & *lag*), the other a set of *concrete signs* in the form of a group of blocks varying in height, size and colour. The blocks were marked on their base with words so as to reflect the 'double dichotomy' solutions shown below in Figure 15.

<i>mur</i> blocks (tall and small)	<i>cev</i> blocks (flat and small)
one red equilateral triangle	one blue equilateral triangle
one blue circle	one yellow equilateral triangle
one yellow square	one green semicircle
one white hexagon	one white hexagon
one white circle	one yellow circle
	one red trapezoid
<i>bik</i> blocks (flat and large)	<i>lag</i> blocks (tall and large)
one green square	one red square
one green trapezoid	one blue square
one blue circle	one green equilateral triangle
one yellow semicircle	one red circle
one red trapezoid	one yellow trapezoid
one white equilateral triangle	

Figure 15 The four double dichotomy solutions for Sakharov's block task
(Taken from Towsey 2009, p.331)

The challenge facing the subject is to work out the system by which the blocks have been labelled and hence divine the definitions of the nonsense words. Observation of participants' trial and error manipulation of the materials was used to infer the nature of the concepts being constructed.

7.3 Applying double stimulation to the design of a dilemmatic pedagogic space

The following subsection relates the method of double stimulation, as described by Valsiner (2000) and illustrated in Figure 10, to the problem of designing dilemmatic spaces.

7.3.1 A socio-ecological space

The wooden block task comprises a *researcher* (designer) a *subject* (reader) and a *structured field of stimuli* (text). Together, these components form a 'socio-ecological' system consistent with the notion of dilemmatic spaces as ecologies.

The developing person faces their environment, acts upon it, and transforms themselves. However, the environment is largely pre-prepared by another person and the persons acting within the environment are guided in explicit and implicit ways.
(Valsiner 2000, p.72)

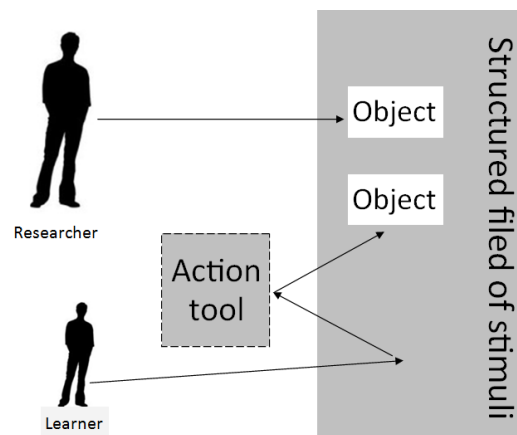


Figure 16 A socio-ecological system based on Valsiner (2000, pp.78-81)

The unit of analysis is the pedagogic space taken as a whole. This same anti-dualist premise also underpins Bernstein's notion of *invisible pedagogies* that has been incorporated within the domain theory thus far.

... the unit of analysis cannot simply be an abstracted specific competence like reading, writing, counting but the structure of social relationships which produces these specialised competencies. (Bernstein's 1975, p.32)

Although the teacher arranges the context that comprises an invisible pedagogy, it is ultimately the nature of the child's interactions within this context that determines the trajectory of their development. Likewise Eco's (1979) notion of the open text posits that a novel's reception depends not on the intentions of the author but on how it is 'productively activated' by a reader.

As semiotic entities, neither texts nor readers can be said to exist 'in themselves'; rather they acquire identities and capacities as a function of their inscription with various 'reading formations' (Lewis (1985, p.506)

7.3.2 Structured field of stimuli

The socio-ecological space contains a *field of stimuli* that may naturally occur or be purpose-built. In the case of the wooden block task the stimulus field was built, comprising a set of wooden blocks and the nonsense words. This field was *structured* in the sense that the blocks were not identical or random in appearance, but patterned in a pre-planned way according to shape, colour etc. In other words the affordances of the blocks were constrained according to a preordained scheme. For example, the blocks were all made from the same material, but were of different colours. Hence they could be classified by hue, but not by their degree of transparency. The blocks were also configured so that not all groupings would contain an equal numbers of blocks.

Eco's open work can also be construed as a stimulus field. It is structured as an '*artistic system*' that affords multiple, but not infinite, interpretations.

You cannot use the text as you want but only as the text wants you to use it. An open text however 'open' it be, cannot afford whatever interpretation. (Eco 1979, p.9)

A reader's interpretations are constrained within a text-labyrinth, but it is a labyrinth that affords a myriad of generative paths. The reader is constrained to negotiate the *ratio difficilis*, but the course of the subsequent interpretations this triggers will vary from case to case. Likewise, Bernstein's (1979) '*invisible pedagogy*' is encoded with a hidden curriculum that exists in a figure ground relationship with many other possible interpretations. Although initially invisible to the acquirer (i.e. the reader) the structure of the pedagogy is always visible to the teacher (i.e. the author). Both the open text and the invisible pedagogy are structured fields of stimuli.

7.3.3 Object

Valsiner (2000) explains that double stimulation is underpinned by an assumption that each person will import different '*encoded personal-cultural experiences*' into the experimental situation. Despite a common understanding as to the goal of the task (to create an orderly arrangement), the configurations achieved are orderly only according to the situation *as it is perceived by each subject*. Individuals were predicted to differ in terms of their effectivities- their

tendency to prioritise some affordances in the field of stimuli over others as a result of their previous cultural experiences. Hence, although all children may eventually have arrived at the same arrangement, in the course of completing the task they were observed to attend to different goal related *objects* in the environment. For example some subjects might have concentrated on the relative size of blocks as a stimulus object, whilst for others colour may have been a more significant organising principle. The task was designed to afford multiple objects by which the same learning destination could be achieved.

In essence, the wooden block task accommodates the fact that different coding procedures and ground rules may derive from the same moral principle- in this case that an *ordered* (i.e. not a disordered) pattern is desirable if the nonsense words are to be understood. This notion also underpins the distinction Bernstein (1990) draws between *visible* and *invisible* pedagogies. The former, he suggests, requires students to apply the *same criteria* to tasks and, thus, to produce the *same texts* in response. Invisible pedagogies, on the other hand, assume that people will differ according to the criteria they apply and, hence, the texts they construct. With invisible pedagogies

... procedures of acquisition are considered to be shared by all acquirers, although their realization in texts will create differences between acquirers. But these differences do not signal differences in potential, as all acquirers are judged to share common procedures. (Bernstein 1990, p.62)

In the case of the wooden block task, students eventually solve the words by ordering the blocks (*procedures of acquisition*). The arrangements (*textual realisations*) they produce en route vary not as a function of ability but as a function of the values by which objects are made more or less salient. The same can be said of the '*possible worlds*' constructed by Eco's (1990) Model Reader of open texts. Although all readers are invited by the author to negotiate the same *ratio difficilis*, the exact nature of the abductions that ensue will vary as a function of the particular deontic principle the reader applies. It is abduction as a procedure of acquisition that is targeted, not the interpretations it may give rise to.

7.3.4 Action tool

The nonsense words were intended as a neutral stimulus- an *action tool* that learners could use to help them reach an orderly arrangement of the blocks. Thus the nonsense words perform a similar function to the clock in Kurt Lewin's waiting room anecdote, but with an important caveat. The purpose of the wooden block experiment was to describe the process by which this tool *gained symbolic meaning*. Hence, from the *learner's perspective*, it is important that the action tool, unlike a clock, has *no prior meanings associated with it* that might threaten the validity of these observations. It is here that differences between Vygotsky's experimental methodology and the domain theory start to emerge.

For him [Bernstein] symbolic tools are never neutral: intrinsic to their construction are social classifications, stratifications, distributions and modes of recontextualising.
(Daniels 2012, p.50)

Perhaps inspired by Vygotsky's example, Bernstein himself carried out small scale classification experiments (Bernstein 1990). In one of these studies middle and lower working class 7 year olds were asked to group pictures of foodstuffs. The working class children, predicted to have a restricted orientation to meaning, *initially* gave principles for classification that derived directly from the material base of their 'local activities' (e.g. *that's what we have for breakfast*). The middle class children, as one might expect, *initially* applied categories that had only an indirect relation to a material base (e.g. *They are vegetables*). However, when asked to repeat the exercise, each group adopted the classification principle of the other. From this Bernstein concluded not that the children differed in their powers of reasoning, but that they differed in terms of their *reading of the experimental context* and what it required of them. They differed not in their principles of classification but the importance they assigned each principle. Similarly, as Eco argued, the reader of a novel will apply a *deontic* rather than an *objective logico-mathematical* rationale to the problem presented by a *ratio difficilis*.

The difference between the children is not a difference in cognitive facility but a difference in the recognition and realisation rules used by the children to read the context, select their interactional practice, and create their texts.
(Bernstein 1990, p.89)

In other words, the response of children to an action tool is *always* culturally organised- a tool can never be assumed to have a neutral status despite an experimenter's attempts to make this so. Although the nonsense words in the block task had no logical meaning per se, they were still recognisable *as words*, and so were laden with all the different values that words serve in a culture (*humorous, fantastical, scientific, poetic*). Given this, the children's logical manipulation of the blocks may have been confounded by the moral values they projected onto the 'neutral' tool. The truth of this is suggested by Lund and Ramussen's (2008) application of double stimulation to investigate the use of technology in a Norwegian high school. Students participating in the research were asked to respond to the following open ended question:

How has the UK and/or the US influenced the English speaking world?

As in the wooden block task, it was hoped that students would systematically select *objects* from a field of stimuli in order to solve the problem they had been set. In this case the *structured field of stimuli* took the form of the Google search engine. The 'neutral' *action tool* provided to the students was a wiki technology, initially empty of content and therefore considered empty of meaning. The intention was that, as the wiki text grew, it would expose groups of students to the conflicting ideas and approaches employed by other groups, so revealing multiple interpretations of the stimulus question. This, it was hoped, would encourage groups to broaden their approach and adopt lines of inquiry modelled by their peers. The *procedure of acquisition* targeted was the ability to apply multiple perspectives to the analysis of a problem situation.

However, in practice this intention was frustrated. Instead of a vibrant culture of '*collaborative knowledge construction*' some groups turned in on themselves and refused to share their work with others in the class. These students expressed the fear that other groups would cheat and steal their ideas rather than do the work themselves. The prevailing ideology of competition for grades within the school had unexpectedly positioned the wiki tool as a threat, not a resource, thus preventing it from serving its intended pedagogic purpose.

The authors make the point that unless the assumption of neutrality is abandoned and tool technologies are designed to take sociological factors into account, it is probable that the assessment culture of the school will overwhelm their generative potential.

In sum, sustained pedagogical and technological co-design that is sensitive to the above issues is needed if we want CSCL to span multiple and changing configurations of collaborative activity. (Ibid, p.409)

It is this critical awareness of how dominating cultural principles (e.g. capitalism) may permeate schooling (e.g. in the form of competition for grades) that is missing from Vygotsky's original conception of double stimulation. Matusov (2011, p.112) accuses Vygotsky of overestimating the importance of scientific concepts and uncritically accepting the institution of compulsory education. For Hasan (2012) the individual in his experiments remains ... *faceless, culturally non-specific* with the result that *..the sociogenetic process of mediation appears to occur in a social vacuum* (p.85). Likewise Rampton (2007) criticises neo-Vygotskian approaches to discourse analysis (e.g. those of Mercer) as neglecting the critical dimensions of classroom practices.

Relatively little attention is given to the classroom as a cultural context with its own sites of struggle and its own local institutional imperatives and affordances for particular kinds of learning (Ibid, p.588)

Missing from Vygotsky's methodology, therefore, is the notion that symbols are 'double-voiced' and can legitimately express meanings according to multiple deontic institutional codes. The logic by which the words and blocks are configured affords only a single correct arrangement. The block experiment is devoutly Peircean in its telos- a lie is always revealed to be a lie because only a single 'true' arrangement is ultimately achievable.

7.3.5 Microgenetic method

Valsiner (2000) defines a microgenetic research strategy as one that *..triggers, records and analyses the immediate process of emergence of new phenomena. (Ibid, p.78)*

This emphasis on the *triggering* of conceptual change is mirrored in Eco's *ratio difficilis* and also Bernstein's notion of the invisible pedagogy. In each case,

habitual modes of interacting are disabled so that new understandings might emerge. In the case of the wooden block task the process under study was that by which the nonsense words gained their meaning. This is shown below in Figure 17. The experimenters used changes in the dynamic intention towards the nonsense words as an index of the changing effectivities of the child. In other words, through observing transformation of the ordering function of the words experimenters were able to infer resulting changes in orientation to meaning.

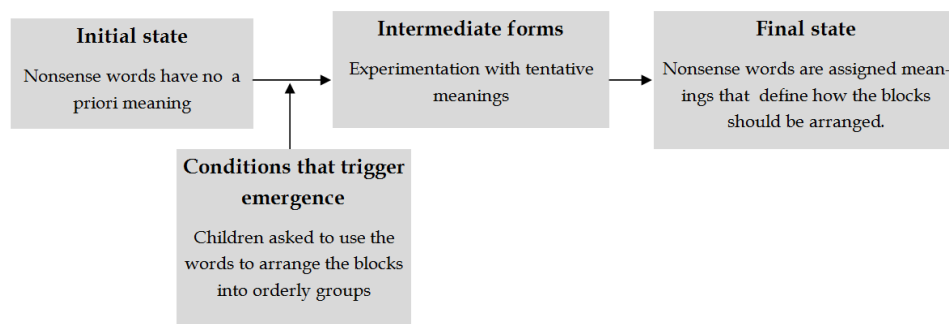


Figure 17 Components of microgenetic research design, based on Valsiner (2000, p.78).

Of crucial importance to the methodology is the emergence of *intermediate forms*. These may be crude versions of the final state or stepping stones that facilitate the final solution but do not feature in it (Valsiner 2000). In either case they signal the emergence of a new, higher mode of mental functioning- something referred to as a *true* or *scientific concept*.

7.3.6 Transformation of the action tool and the emergence of concepts

The action tool is constructed and reconstructed by the child in the course of their activity, mirroring their evolving understanding of the situation. In the block task children were sometimes observed to use the words simply as a means to impose an arbitrary scheme onto the situation- what Kozulin (1999) refers to as a *syncretic grouping*. For example, they might use the words as a post hoc way of labelling what were essentially random arrangements of the blocks (e.g. 'It looks like a house'). A *complex*, by contrast, is an ordered arrangement guided by perceived similarities and differences between the blocks. A *chain complex*, for example, might involve a *red circle*, a *blue circle* and

a *blue square*. However, with a complex no single physical attribute is applied consistently and so, again, labelling of the patterns created is a post hoc operation. In both cases, the words served as a *technical tool* which

...serves as a conductor of humans' influence on the object of their activity. It is directed towards the external world: it must stimulate some changes in the object; it is a means of humans external activity directed towards the subjugation of nature.
(Vygotsky 1960, p.125 cited in Wertsch 1985, p.78)

Alternatively, the words could perform the function of an *auxiliary means*. In this case the action tool facilitates a mental function that has already been acquired through force of habit- something referred to as a *potential concept* (Kozulin 1999). For example, if colour is habitually used by the learner to discriminate objects, this habit will be brought to the task with each nonsense word assigned a particular hue. For example, red shapes might be grouped together as '*stop*' shapes and green ones as '*go*'. Although a logic of sorts, the child's attention is still directed to the concrete situation (the blocks) and not the conceptual affordances of the nonsense words (action tool). In each case therefore- *syncretic grouping, complex, potential concept*- the child's thinking is judged to be *pre-conceptual*. In Bernsteinian terms the child has a restricted orientation whereby symbols are assumed to have meanings that directly relate to a material base. From the point of view of Eco's Model Reader, the child is guilty of naïve, aberrant coding because he or she is oriented to symbols as self-contained concrete entities rather than as expressions of another's perspective.

The wooden block task is designed so as to frustrate and interrupt these restricted modes of interacting and encourage more elaborated interactional structures. The dilemma facing the child is similar to that facing the reader who is unsuccessful in applying the methods of tenacity, a priori or authority to resolve a *ratio difficilis*. Either maintain the value perspectives that underpin their restricted orientation and fail the task, or gamble on success in the task at the cost of betraying these commitments. In the block task this gamble of abduction is expressed as a *pseudo-concept*.

In this instance, the learner *appears* to share the researcher's orientation to the task. Some blocks are grouped in ways that mirror those dictated by the

researcher's logical scheme, suggesting that both learner and researcher share the same effectivities. However, with a pseudo concept this is not so, as revealed when an erroneously placed block is shown to the learner. In the case of true conceptual thinking this would lead to a child restarting the task *from scratch*- in the case of a pseudo-concept it is only the indicated block that is removed by the child. The pseudo-concept is formed when the child's interpretation instinctively or serendipitously coincides with that of the researcher, but not yet in a way that is consciously controlled. In this way one can acquire knowledge before one understands its significance.

The child's reasoning is constructed from the outside through the necessary coincidence in the child's and adult's representations. (Kozulin 1999, pp.162-3)

The importance of the pseudo-concept is that it signals an opportunity for understanding to be restructured from the outside. The pseudo concept starts out as a '*concept for you*' (Kozulin 1999) because, unlike the researcher, the child does not yet have the effectivities to see the full meaning potential of the groupings they have formed. At this juncture *addressivity* emerges. The learner stops orienting to concrete stimuli and, instead, orients to the logical scheme of the task's designer. In terms of Bernstein's invisible pedagogy, the learner now no longer perceives themselves as filling the pedagogic space- the 'author' too must be considered in the division of labour.

It is this complication of the division of labour that precipitates movement from a restricted to an elaborated orientation and thus the restructuring of consciousness. Through successive cycles the '*concept for you*' becomes a '*concept for me*'-a *scientific concept*. As with Bernstein's (1971) account of code, this shift embodies a qualitatively different mode of perception. Primitive' lower mental functions are not conceived as being supplanted by this new concept. Instead, the lower functions are reorganised, allowing voluntary control of attention and conceptual reasoning.

In contrast, scientific (subject matter) concepts "not only reflect reality, but also systematize it, include data of concrete perception into a complex system of connections and relations, and disclose the connections and relations that are inaccessible to simple comprehension. (Vygotsky 1998, p. 79)

This development is accompanied by a change in intention towards the action tool. Instead of working *outwards* on the objects, the tool works *inwardly* and rearranges mental functioning- it becomes a *psychological tool*.

In his approach, psychological tools are not viewed as auxiliary means that simply facilitate an existing mental function while leaving it qualitatively unaltered. (Wertsch 1985, p.79)

7.3.7 Transformation of the socio-ecological system

When the blocks are correctly arranged and the ‘penny drops’, a change in the socio-ecological system is manifest. Perception of this change, however, depends on one’s position in the space. From the perspective of the ‘reader’ the system changes from being meaningless and open to being closed in its interpretive possibilities- once the words have been solved, all other possible interpretations are abandoned. The author/experimenter, by contrast, perceives the transformation of a closed and restricted response to the task into an abstract and generalizable one. That is to say, following the experiment the subject is not only able to use the words to order the wooden blocks but could use them to arrange any other set of objects.

7.4. Final version of the domain theory

7.4.1 Rationale for this iteration

Vygotsky’s method of double stimulation adds to the explanatory power of the domain theory in two senses. First, as was said at the conclusion of the previous chapter, it provides a mechanism by which orientation to symbols and their meaning can be restructured through concrete activities. Second, in reconfiguring the dilemmatic pedagogy as a combination of stimulus field and action tool, it enables the process by which this change in orientation is affected to be inferred from observable movements and actions.

7.4.2 Third domain theory iteration

Figure 18, overleaf, shows the domain theory in its final form.

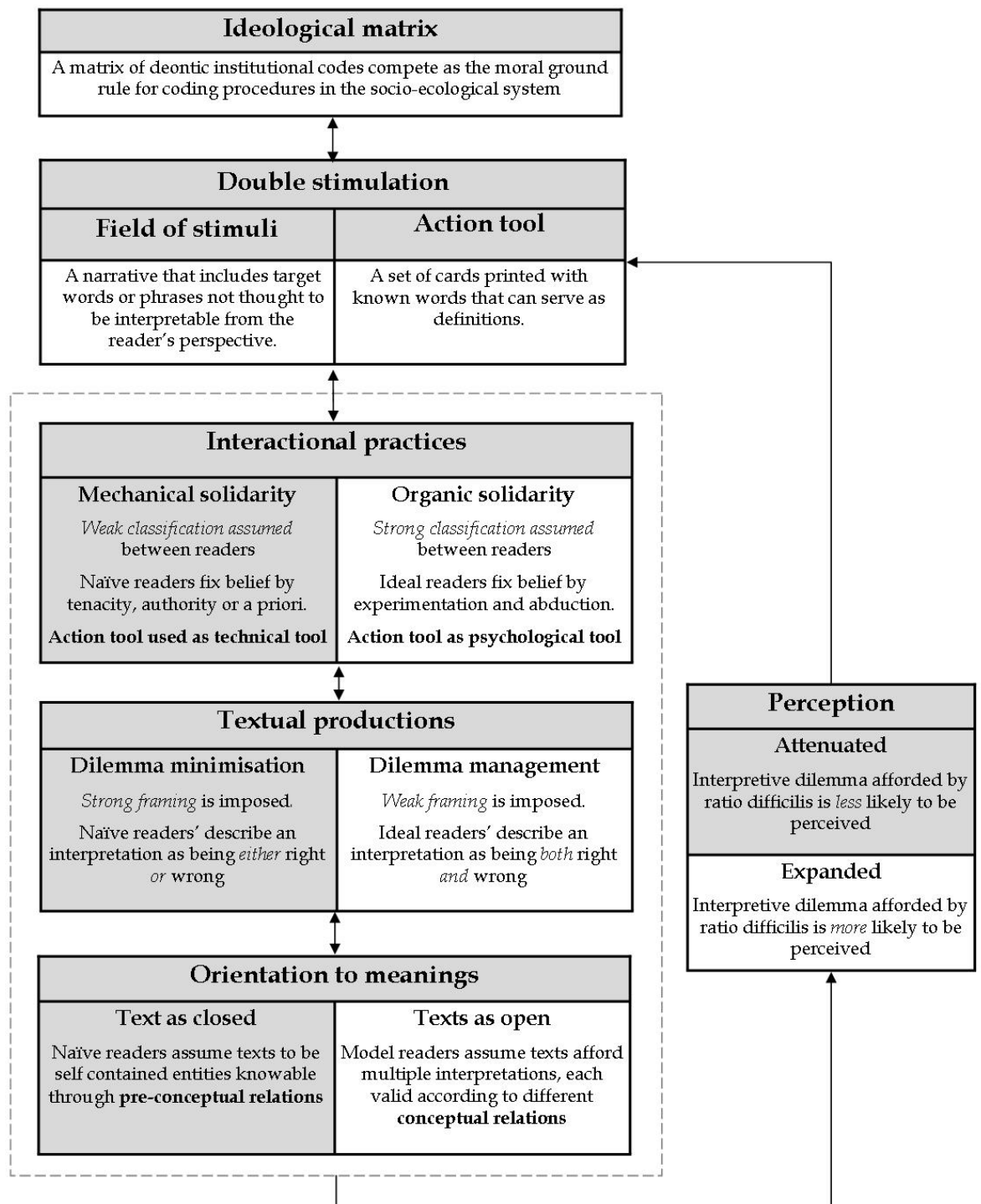


Figure 18 Third iteration of the domain theory for the thesis

7.4.3 Ideological matrix

No change has been made to the domain theory in this iteration other than to specify the constellation of students, researcher and designed pedagogy as a socio-ecological system. This is a micro-ecology of institutional codes within the wider ecology represented by codes, and dominant cultural principles.

7.4.4 Dilemmatic pedagogy

Vygotsky's double stimulation methodology has been used to model how a ratio difficilis can be constructed across two concrete sign forms. In this case the disordered situation is a line in a narrative containing an unknown word that cannot be interpreted. The action tool is not intended to be neutral- it consists of simple words that are known to the participants. Some are designed so as to comply with their dominant institutional code but jar with the syntax or topic of the story. Others are consistent with the story but violate the established ground rules for interpretation in the group. Either type of interpretive dilemma is afforded by the design- both violate the overarching absolutist assumption of the naïve reader. Both the field of stimuli (text) and action tool (word cards) are marked with symbols, but are concrete in the sense they can be grouped, juxtaposed, set aside and so on. It is by these means that a change in orientation to meaning may be materially restructured.

7.4.5 Interactional practices

Creating an action tool that is concrete in form makes the methods for fixation of belief an observable phenomenon. It allows movements and gestures to be cross checked against speech as a means of determining the methods being applied at any one time.

7.4.6 Textual productions

Although textual productions of a sort were made in the course of the wooden block task (i.e. the different arrangements of the blocks) little or nothing was said by subject or researcher as the task proceeded. Hence, no change has been made to this aspect of the domain theory in this iteration.

7.4.7 Orientation to meaning

Inferences as to orientation to meaning can be inferred from observation as to the principles by which the action tool is manipulated. Use of the action tool as a technical tool (e.g. labelling unknown words in the text according to common first letters or letter strings) would suggest a restricted orientation- one tied to objects in the concrete situation. Use of the action tool as a psychological tool (e.g. two cards being assembled against a single unknown

word) would suggest the emergence of an elaborated orientation to meaning. Pseudo concepts may emerge as students' try to make this transition (e.g. joke-like rationales as to why either or both cards should be rejected).

7.4.8 *Perception*

No change has been made to the domain theory in this iteration

7.5 Next steps

The final chapter in this section of the thesis summarises the three iterations of the domain theory and clarifies its function in subsequent phases of the research.

Chapter 8 Composition and function of the domain theory

8.1 Stages of development

A key challenge in educational design research is to make clear the precise nature of the theory that guides the construction and operation of the design (Sandoval 2014, p.20). Table 12, below, summarises the main concepts that have been incorporated into the domain theory and their function in modelling how interpretive dilemmas might be stimulated as a pedagogic strategy. The following pages show the domain theory at each stage of its development.

Iteration	Recruited constructs	Changes made to theory
Germ form	Dilemma spaces (Fransson & Grannas 2013) Classroom ecologies (Gresalfi et al 2012)	<i>Basic model formed of collaborative classroom activity as an ecology with structural and relational conditions</i>
First	Bernstein's (1990) theory of the pedagogic device Bernstein's (2000; 2003) theory of code	<i>The structural dimensions of the model are specified in terms of principles, codes and agencies.</i> <i>The relational dimensions of the model are specified in terms of coding procedures</i>
Second	Eco's (1979) theory of open texts and the model reader	<i>Institutional codes are used to explain how structure is symbolised by individuals as ideology</i> <i>The basic format of the proposed pedagogy is based on the concept of a ratio difficilis</i> <i>Two types of reader are conceived as the addressee of the pedagogy- one naïve, the other ideal, each with distinct methods for fixation of belief</i>
Third	Vygotsky's method of double stimulation	<i>The ratio difficilis is distributed across two concrete objects, one a structured field of stimuli, the other an action tool.</i>

Table 12 Rationale for each iteration of the domain theory

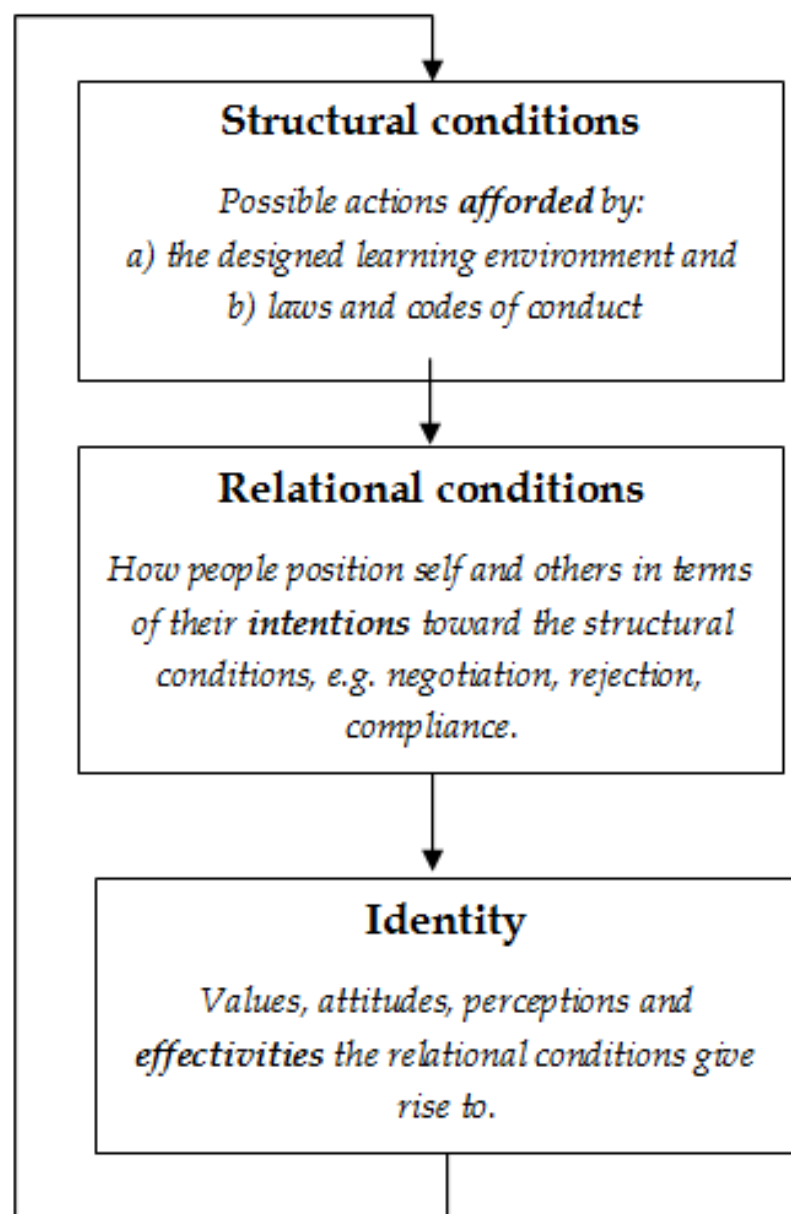


Figure 3 Germ form of domain theory

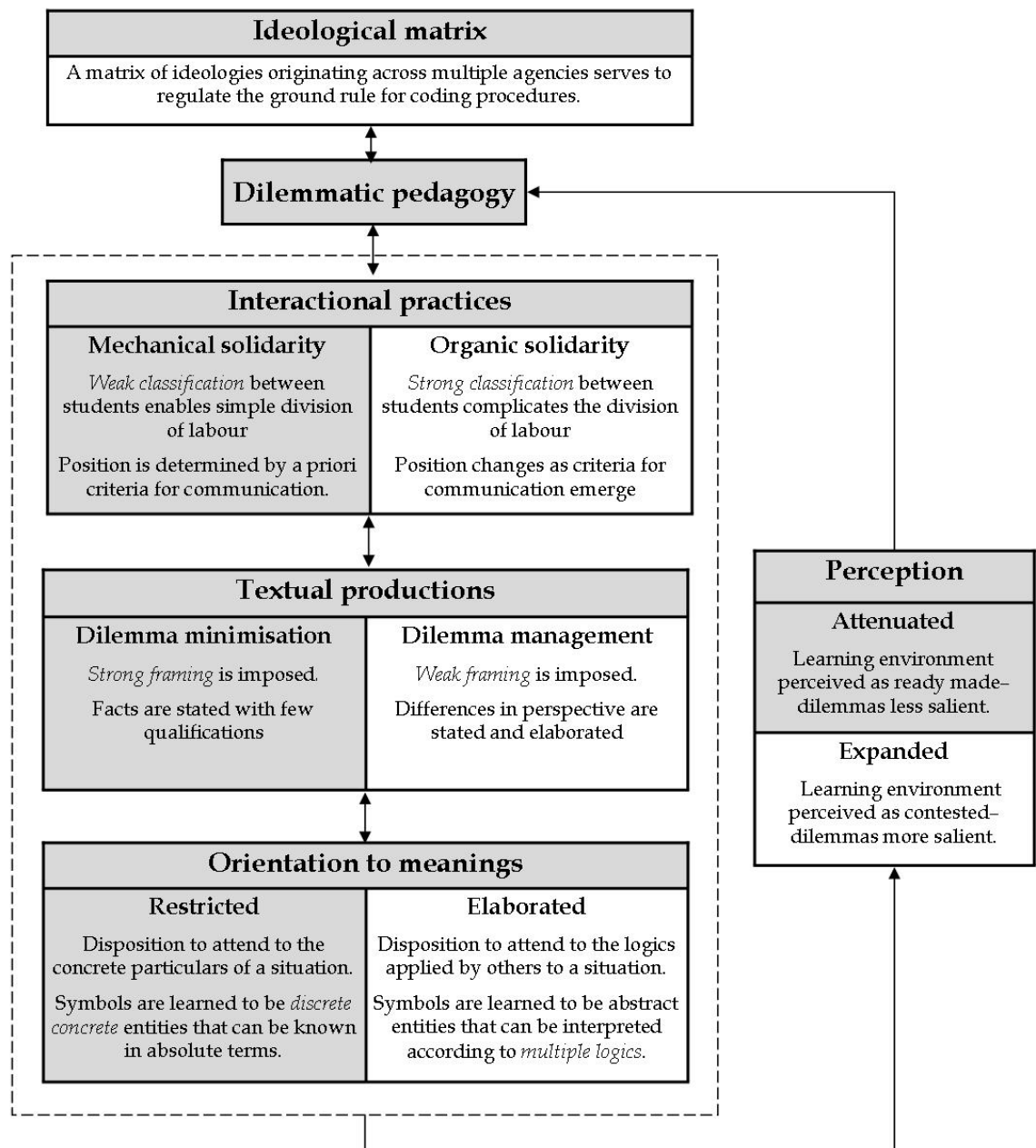


Figure 11 First iteration of the domain theory as appears at the conclusion of Chapter 5.

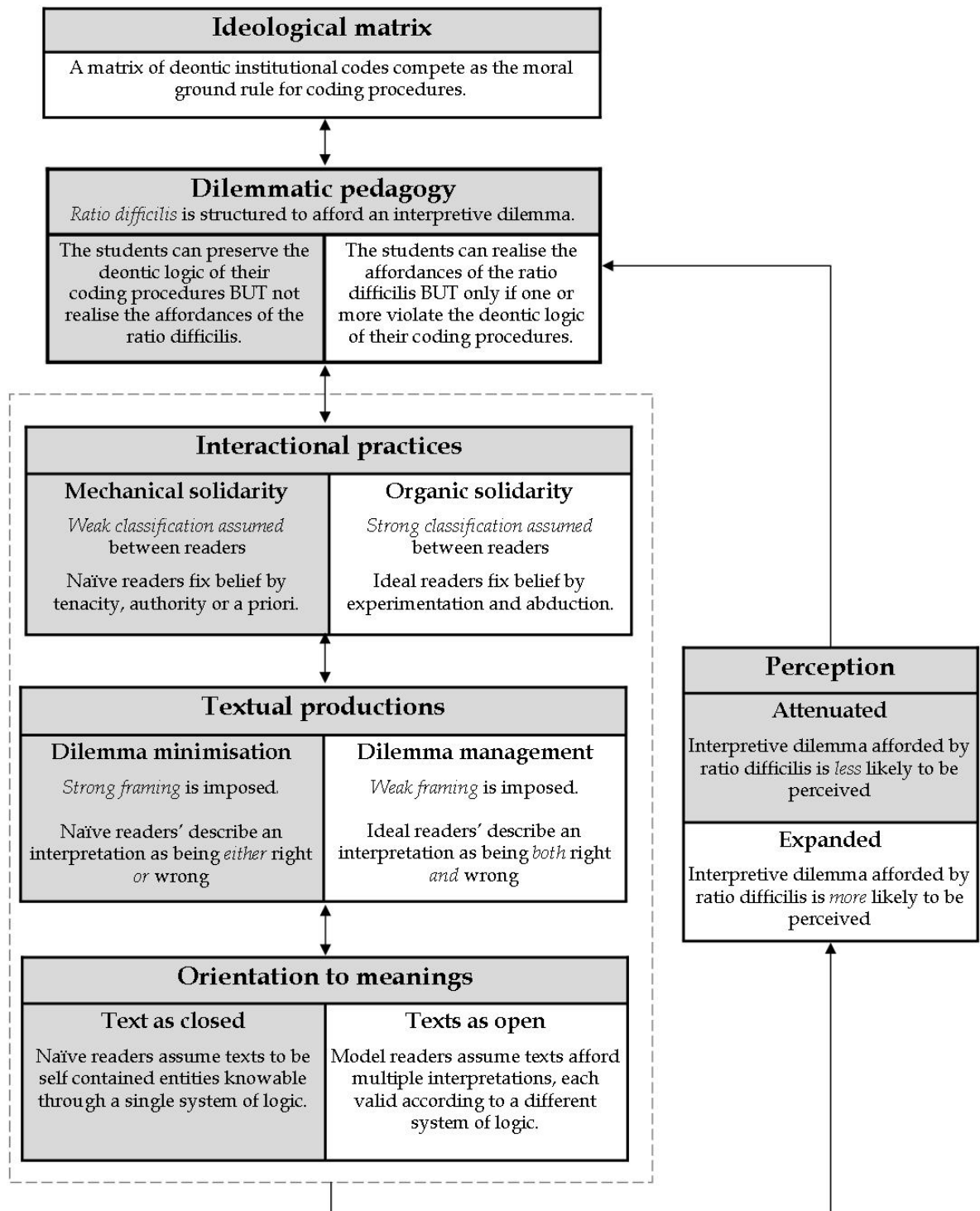


Figure 14 Second iteration of the domain theory as appears at the conclusion of Chapter 6.

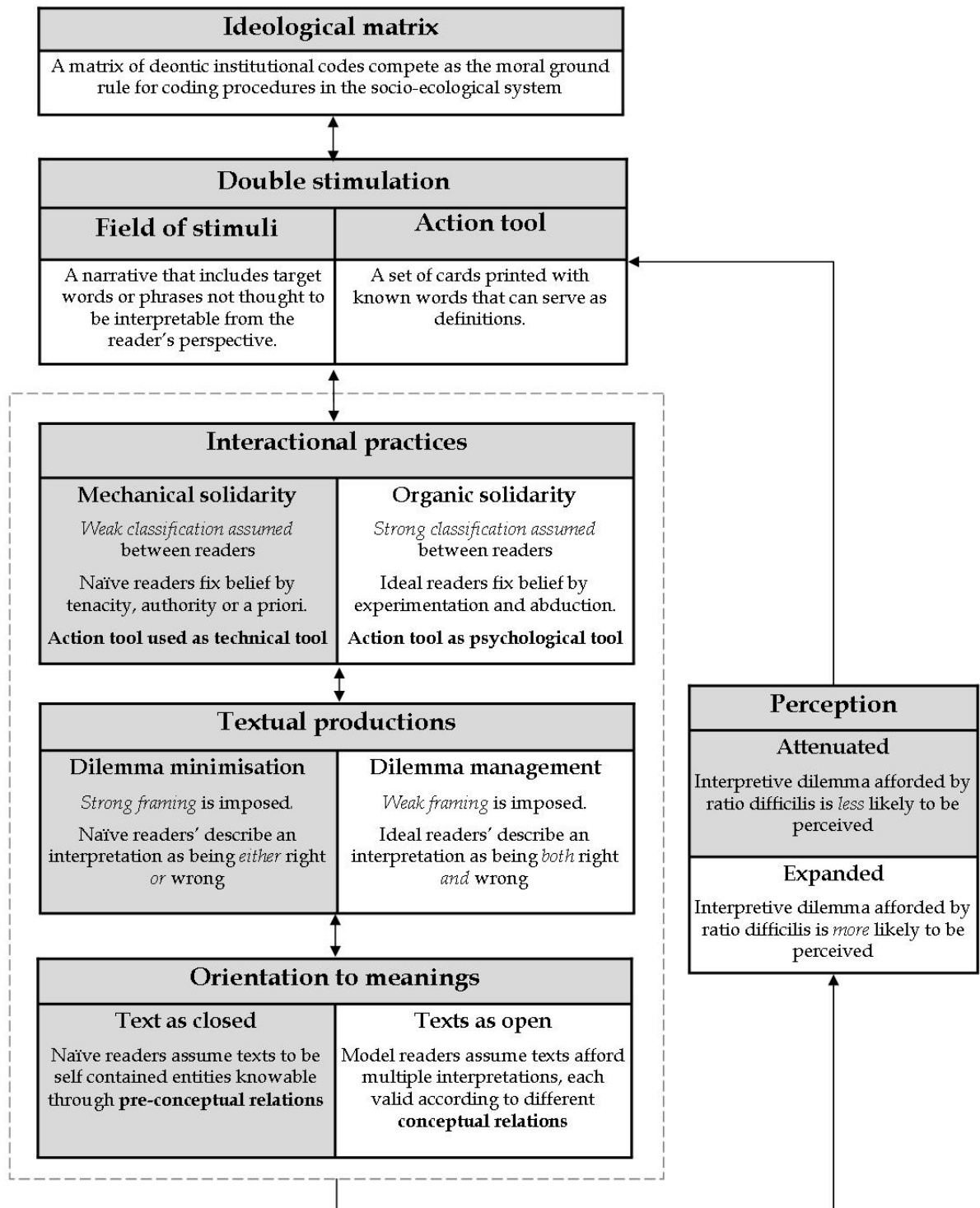


Figure 18 Third iteration of the domain theory as appears at the conclusion of Chapter 7

8.2 Composition

8.2.1 The basic components of a domain theory

Simon (2013), writing in the context of mathematics instruction, argues that researchers should be clearer as to the pedagogic theories upon which their interventions are based. He argues that broad philosophical constructs like constructivism and socio-cultural theory are insufficient as means to communicate how learning processes have been conceptualised. Instead, researchers should stipulate the types of theoretical components used and the rationale by which they have been assembled to meet a given instructional problem. DiSessa and Cobb (2004) also make this point, adding that if the rationale for theory construction is to be made explicit, a common vocabulary is needed that describes these components.

Meta-scientific frameworks, which might facilitate description and comparison of theories, are not common currency. This difficulty is exacerbated in design research, where investigators tend to follow their noses, doing the work of science as they understand it, without extended rationale or public explication.

(diSessa & Cobb 2004, p.78)

The typology offered by diSessa and Cobb is summarised in Table 13, along with notes designed to clarify the contribution of each component type to the domain theory for the thesis.

Orientating frameworks	<i>General epistemological assumptions about the world. Examples given are constructivism and cultural historical theory. The orientating framework for the domain theory is that of the classroom as an ecological system.</i>
Grand theories	<i>These theories conceptualise particular learning processes. Grand theories that posit interpretation as an ecological phenomenon include Bernstein's (1996) pedagogic device, Eco's (1979) Model Reader and Vygotsky's (1978) principle of double stimulation.</i>
Domain specific instructional theories	<i>These theories apply grand theory(s) to the analysis of a specific disciplinary construct. The domain theory for the thesis models how interpretive dilemmas might serve to disrupt restricted coding procedures in text interpretation, and so stimulate the construction of elaborated orientations to meaning.</i>
Ontological innovation	<i>These are new theoretical constructs that are not explainable by the domain theory as it was originally constituted. An output for the thesis is an adapted form of the domain theory that incorporates ontological innovations that arise during the analysis of data.</i>

Table 13 A typology of theoretical constructs that comprise the domain theory.

8.2.2 Coordination of components within the domain theory

A key decision when constructing a domain theory concerns how the disparate components of the domain theory should be combined. Kress (2011) describes two possible approaches to such a task:

*Is the aim a general one of a kind of merger, a 'unification' of frameworks and methods?
Or is there a recognition and valuation of the distinct differences of potentially
complementary approaches in a merely temporary conjunction around a specific task?*
(Ibid, p.241)

Although it has been argued that the theoretical perspectives incorporated within the domain theory share some common assumptions (e.g. non dualism; contexts as ecologies), there is no suggestion that they can be amalgamated within a single overarching thesis. Instead, the intention has been to achieve benefits of complementarity rather than subsume components within a single synthesised model. The resulting domain theory is a '*bricolage*' (Gravemeijer and Cobb 2006)- a temporary assemblage of disparate part brought together for practical ends.

8.2.3 Potential for distortion and misrepresentation.

There is a case to be made that all of the 'grand theories' that have been referenced thus far are, in themselves, what Eco would refer to as 'open works' and therefore open to interpretation. Citing Umberto Eco, De Queiroz (2011) argues that Basil Bernstein's sociological model of education was deliberately intended as a text to be interpreted rather than an orthodoxy to be followed.

*.....he [Bernstein] works to demonstrate the renewability of his concepts, how his
theory can constantly be revised and submitted to empirical tests. In this respect,
Bernstein's work is open and does not need a protective orthodoxy or a strong shelter...*
(Ibid, p.50)

Some would certainly argue against extending this interpretive freedom to the works of Lev Vygotsky (e.g. Gredler & Shields 2004). However, Vygotsky had not arrived at a unified and consistent theory of consciousness by the time of his early death in 1934 (Edwards 2007). This problem is compounded by the fact that important subtleties of meaning may have been lost in selective or partial translations of his work from Russian to English (Daniels 2001). Hence,

whilst some are vigorous in policing the integrity of his work, others argue that it is necessary to experiment and make adaptations if practical use is to be made of it.

...we should certainly read Vygotsky and try to understand what he had to say but in appropriating his ideas and putting them to use we should also be willing to transform those ideas so that they can be of the greatest use to us in meeting the demands of our own situations. (Wells 1999 cited in Daniels 2001, p.13)

8.3 Function

8.3.1 *The ambivalent role of the domain theory in the thesis*

In their discussion of scientific method in education design research, Shavelson et al (2003) make the (possibly redundant) observation that research questions should drive the selection of research methods. However, the role of theory in the formulation of these questions is less clear- does theory drive the design question or vice versa? In an attempt to provide clarity they identify three types of questions that punctuate the evolution of a design study.

- *What is happening?* The exploratory nature of this type of question means it is likely to arise at the beginning of an inquiry and involve use of ethnographic methods.
- *Is there a systematic effect?* Pure and quasi experimental methods are used to establish if hypothesised causal effects are indeed in operation. The difficulty of conducting controlled experiments in schools means they tend to arise towards the end of a study.
- *Why or how is this happening?* This type of question is geared to modelling the mechanism by which a given design exerts an influence on learning.

It is the third of Shavleson et al's (2003) question types that is most ambivalent with respect to theory. Modelling may be a priority once a systematic effect has been proven. Alternatively, they argue

In design studies theory often drives the design of activities or artifacts with a tentative causal explanation or mechanism. (Ibid, p.28)

The domain theory can also serve as a conjecture that initiates construction of pedagogic materials and directs the selection of methods. It also provides a lens by which key events relating to its performance are made salient in the exploratory phase of design research.

.... a strong conjecture should shift one's perspective and bring new events, previously insignificant or perplexing, into relief. At points in its evolution, the conjecture should feel like a grand scheme beginning to emerge from many, previously disparate pieces, making them more cohesive.

(Confrey & Lachance, 2000 cited in Confrey 2006, p.141)

The domain theory developed in this first section of the thesis, therefore, serves as an abduction (Peirce 1934). It is weak in terms of its empirical warrant but has value in... *its directing us as if we were in possession of facts that are entirely beyond the reach of our senses.* (Ibid, p.107)

8.3.2 The place of domain theories in knowledge production

As shown in Figure 19, below, the domain theory is one of three types of knowledge that is targeted in design-based research (Obrenovic 2011).

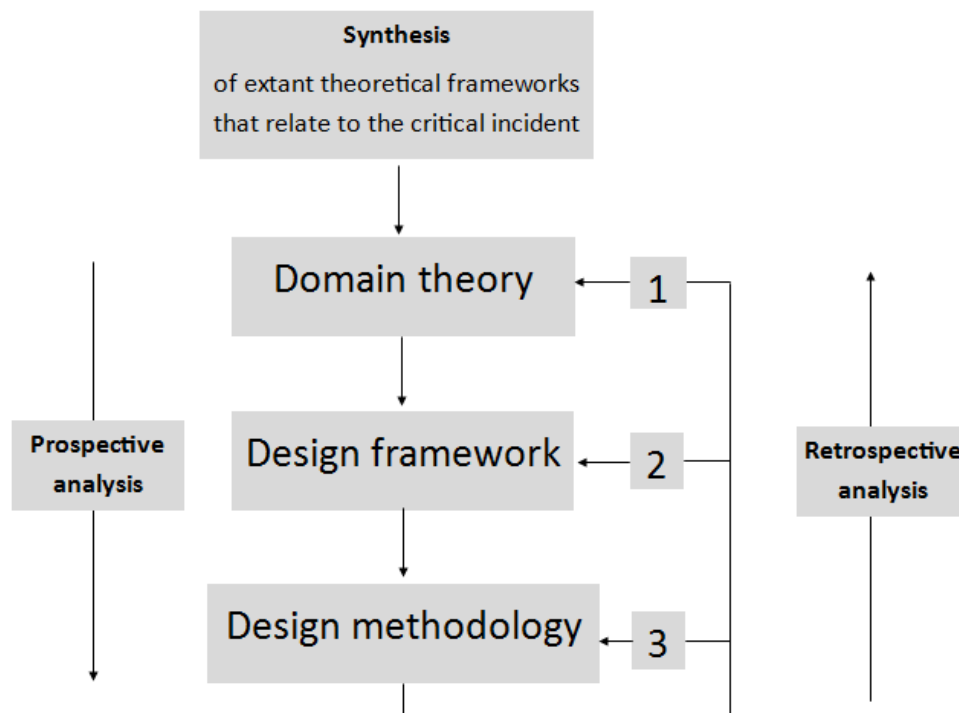


Figure 19 Cyclical process of knowledge creation across three types

On the prospective, forward looking side of design research, the domain theory informs the design of initial prototype materials (the design framework) and the methodology used to research their effect. The resulting data are then analysed retrospectively to reflect upon and revise the initial theoretical conjecture. Surprising data can lead to:

- Ontological innovation, causing the domain theory itself to be changed (1).
- Revision of the design framework (i.e. the pedagogic materials) and their principles for use (2)
- Revision of the design methodology (3)

The DBR process followed both within and subsequent to the thesis is cyclical, with the domain theory, design framework and design methodology all open to refinement as the research proceeds (Collins et al 2004). Following the example of Vygotsky's sociocultural method, there is no ontological separation of data, methodology and concepts- each is ecologically bound to the other as they coevolve.

The search for method becomes one of the most important problems of the entire enterprise of understanding the uniquely human forms of psychological activity... the method is simultaneously prerequisite and product, the tool and the result of the study.
(Vygotsky 1978, cited in Thorne 2005, p.397)

8.3.3 The problem of alignment

In design-based research, therefore, the domain theory initially determines the methodological approach taken and then is, in turn, determined by the empirical fruits of that methodology. The circularity of this relationship poses significant challenges in terms of managing threats to validity- something Hoadley (2004, p.204) refers to as 'methodological alignment'. He identifies three dimensions of validity that should be controlled as '*inferential trade-offs*'.

- **Measurement validity**- maintaining alignment of design methodology and domain theory, ensuring '*... our measurements accurately reflect the constructs that we are trying to measure*'. (This is the focus for Section 3).

- **Treatment validity**- Maintaining alignment of design framework and domain theory, ensuring '*... the treatments we create accurately align with the theories they are representing.*' (This is the focus of Section 4)
- **Consequential validity**- Maintaining alignment of design framework and design methodology, to clarify '*...how the interpreted results of the experiment will be applied in practice.*' (This is the focus for Section 5)

8.4 Next steps

The next section of the thesis focuses on the problem of aligning the domain theory with the design methodology. It addresses the following questions that accrue from conceptualising the design space as an ecology:

- How does it make sense to use ethnographic methods to answer questions that are driven by a priori theory?
- Can ethnographic methods be used to refine theories relating to complex learning ecologies?
- If these ecologies are dynamic and self-organising, what is it that is being theorised using these methods?
- How can experimental designs be used to test the validity of the domain theory if each implementation of a design is unique?

Behind all of these questions is a larger question that drives the methodological section of the thesis, namely

What are the implications of the domain theory for research methodology?

Section Three Design methodology

Summary of Section Three

Aim

This section is the thesis focuses on developing a methodology for the research and design of the dilemmatic pedagogy.

A design methodology is a generalization of a design procedure. In contrast to design frameworks, a design methodology provides guidelines for the design process rather than the product. In general, a design methodology describes a process for producing a class of design solutions, the types of expertise required, and the roles of people with these types of expertise. (Obrenovic 2011, p.57)

Research question

What are the implications of the domain theory for research methodology?

Overview of chapters

Chapter 9 Principles and practice in design-based research.

Chapter 10 A programme for the design and research of learning environments based on dialogic principles.

Chapter 11 The rationale for using ethnographic methods in rapid prototyping to refine the domain theory.

Chapter 12 The procedure followed in the rapid prototyping phase.

Chapter 9 Principles and practice of design-based research

The goal of designing and developing an innovative pedagogy places the thesis in the field of educational design-based research (DBR). This chapter examines the extent to which DBR is a methodology in its own right, or a set of generalised principles that guide designers in addressing a different problems.

9.1 Design-based research as a distinct field of inquiry

9.1.1 *The contested status of design-based research*

Although there are examples of design related studies dating back to the 1960s and 1970s, educational Design-Based Research (DBR) only came to prominence in the early years of this century. Within a short space of time, three special issues dedicated to DBR appeared:

- *Journal of the Learning Sciences*, 2004, vol. 13, no. 1;
- *Educational Researcher*, 2003, vol. 32, no. 1; and
- *Educational Psychologist*, 2004, vol. 39, no. 4.

A recent systematic review has characterised this initial flurry of activity as a methodological land grab- an attempt to gain territory for a 'new' approach to educational research:

These articles often had a proselytizing nature, as could be expected from proponents of DBR trumpeting its (claimed) potential to significantly improve the quality and, most important, the impact of research in real educational contexts.
(Anderson & Shattuck 2012, p.19)

Three handbooks have been published in the intervening years:

- van den Akker et al, 2006, *Educational Design Research*.
- Kelly et al, 2008, *Handbook of Design Research Methods in Education*.
- Dai, 2011, *Design Research on Learning and Thinking in Educational Settings*

However, despite these attempts at carving a niche for DBR, there still seems to be a lack of clarity as to what the methodology involves or if, indeed it is a methodology at all.

Despite this boom in writing and move into the mainstream, there remains confusion about design research as a methodology. (Sandoval 2014, p.18)

This chapter is given over to an analysis of DBR in order to provide a ground for the methodological approach taken in the thesis. Firstly it assesses extant definitions and principles identifying a study as being 'Design-Based Research'. The chapter then goes on to consider differences in the way these principles are applied across this community. It concludes with an assessment of DBR's status as a research methodology and the implications of this for the conduct of the research contained in this thesis.

9.1.2 Attempts to define educational design research

Design experiments were developed as a way to carry out formative research to test and refine educational designs based on theoretical principles derived from prior research. This approach of progressive refinement in design involves putting a first version of a design into the world to see how it works. (Collins et al 2004, p.18)

We define design research as family of methodological approaches in which instructional design and research are interdependent. On the one hand, the design of learning environments serves as the context for research and on the other hand ongoing retrospective analyses are conducted to inform the improvement of the design. (Cobb & Gravemeijer 2008, p.68)

DBR is a methodology designed by and for educators that seeks to increase the impact, transfer, and translation of education research into improved practice. In addition, it stresses the need for theory building and the development of design principles that guide, inform, and improve both practice and research in educational contexts. (Anderson & Shattuck 2012, p.16)

Although by no means exhaustive, the above attempts at defining educational design studies express some common features. As with the design of cars, aircraft or buildings, the aim is to produce an intervention that improves the lived experience of its intended users- in this case teachers and/or students. Designed artefacts range from patterns of talk and practical tasks through to new curricula and organisational structures (Design-Based Research Collective 2003). As with industrial product design, DBR is essentially a formative process. A design is refined and improved over a number of cycles

of research so that a better fit between it and the day to day needs of its intended users can be achieved.

However, tensions in these quotations also suggest a lack of commonly agreed ontological, epistemological and theoretical commitments in DBR. For example, Collins et al suggest that DBR is, initially at least, a deductive process- researchers use a priori theory to decide what form the 'first version' of a given innovation should take. The phrase '*..putting a first version of a design into the world*' suggests a dualist notion of design and context where one can be considered as separable from the other. Yet, later in the article, Collins et al suggest that designs need to be seen as '*integrated systems*' comprising cognitive, interpersonal and institutional dimensions. Here, the design is conceived as being part of the context and context part of the design, both being subject to the same processes of analysis and refinement.

This latter description is more in line with the ontology posited by Cobb and Gravemeijer, whose definition proposes a systemic model of design from the outset. Here the focus of the research is a '*designed learning environment*' that serves both as the context and the object of study simultaneously. This assumption poses considerable methodological challenges.

There is a web of interrelations between independent and dependent variables. The division between the two depends on what outcomes one is interested in. But changes in any variable can have effects on other variables through complex feedback loops.
(Collins et al 2004, p.38)

Differences are also apparent in terms of how theory is defined. The emphasis on '*progressive refinement*' and other references in the paper to working out '*bugs*', suggest that Collins et al envisage an ideal version of the design can be achieved that is generalizable across contexts. In other words, they maintain a narrow separation of theory and practice. Anderson and Shattuck, on the other hand, propose the development of what they term '*design principles*'. These comprise practical guidance for use of a design in different situations deriving from a single overarching theoretical model. Here the 'gap' between theory and practice is wider than that implied by Collins et al

(2004). Theory does not determine practice but guides the user in controlling and adapting the design to circumstances. Although more democratic, this treatment of theory makes the refinement of designs a divergent and potentially endless process that can never be finalised.

...it is difficult to know when, if ever, the research programme is completed.
(Anderson & Shattuck 2012, p.17)

Perhaps as a consequence of these divisions, these definitions lack even a common vocabulary. Each quote makes reference to a different label (design experiment; design research; DBR) and the approach is described both as a '*family of methodologies*' (Cobb & Gravemeijer 2008) and a coherent *methodology* (Anderson & Shattuck 2012). McKenny and Reeves (2013) criticise the latter for misleadingly depicting DBR as a '*new research methodology*', asserting that DBR simply applies existing methods to the pursuit of new and original research goals. One might argue that these differences are growing pains- that they reflect different conceptions of DBR as it has matured over time. Yet the previous comment from Sandoval (2014) suggests that this lack of clarity may be endemic to design research rather than just a symptom of its immaturity.

9.1.3 General principles

Several authors have attempted to expand on simple definitions by listing key principles upon which DBR is based (Table 14). Common to all these attempts is the notion of design research as involving iterative cycles of research carried out in 'real world settings' that has a direct impact on classroom practice. However this pragmatist ethos is by no means unique to DBR. It is also a central feature of participatory modes of action research (e.g. Brydon-Miller et al 2009), as is the emphasis on collaboration between multiple stakeholders. However DBR is premised on intervention in local contexts that runs counter to the democratic ethos of contemporary action research (e.g. Kemmis 2007, p.169).

Shavelson et al (2003, p.26)	Cobb et al (2003, pp.9-11)	Anderson & Shattuck (2012, pp.16-8)
They involve tightly linked design-analysis-redesign cycles that converge on a solution.	Development takes place through continuous cycles of design, enactment, analysis, and redesign	Involves multiple iterations of design and research
Settings are multileveled-classroom practices are linked to events or structures in the school, district, and wider community.	Learning processes are assumed to be an ecological phenomenon.	The research is situated in a 'real' context.
They are interventionist and modify real-world settings.	Highly interventionist and represent a 'significant discontinuity' between typical forms of learning and those proposed by the innovation,	Interventionist in intent. Theory is imported into the local context to improve the way it works.
They are collaborative. They depend on the knowledge and co-work of practitioners.		Involves collaboration between researchers and practitioners- each has a different contribution to make.
Tests theory and generates theory focused on patterns in the reasoning of learners.	Theory is used deductively, as a form of speculation, then is adapted through an inductive approach to data analysis.	Designs evolve from a priori theorising that leads to grounded theorising.
They are intent on improving effectiveness of practice.	Theories do practical work. They guide the use and modification of the design by its users.	Designs have a practical impact on teaching and learning in classrooms.

Table 14 Comparison of how DBR principles are articulated

The interventionist bent in DBR stems from two key aims for the approach. First, although in some respects a 'local science', design research seeks to explore and confirm theoretical models that transcend the context in which this work takes place (Barab & Squire 2004). Secondly, the intention of design research is to interrupt habitual modes of practice rather than make them more comprehensible and effective. What is targeted in design research is not an improvement of the existing system's ability to realise goals but a change in the goals themselves.

...not merely to develop more effective instructional approaches for addressing traditional instructional goals, but also to influence what the goals could be.
(Cobb & Gravemeijer 2008, p.69)

However, without an underpinning conceptual framework, a design may be adapted by teachers in such a way that it ceases serve the goals intended by its creators- something Brown and Campione (1996) refer to as a '*lethal mutation*'. Hence the design may, in some instances, be antagonistic towards habitual modes of practice. At this juncture it can be said that design studies apply the following set of principles:

- *Iterative cycles of development;*
- *Complex 'real' settings conceived as systems comprising multiple interacting elements or levels;*
- *Involves collaboration between stakeholders including teachers and researchers;*
- *Interventionist rather than descriptive or exploratory;*
- *Pragmatic- aims to improve practice;*
- *Use of formal theory to formulate an initial prototype that is then refined through grounded theorising;*
- *Development of principles that allow design to be customised to local context.*

9.2 Design-based research as a disparate field of inquiry

9.2.1 Epistemological diversity across individual DBR studies

Collins et al (2004) identify design-based research as a sub-genre of *formative* research (Reigeluth & Frick 1999). This approach, originating in instructional design, is a type of *designed case study*. Unlike more naturalistic forms of case study research, formative research applies iterative study of a case to a specific theoretical problem. Hence, although DBR studies are informed by the common principles outlined earlier, they will differ according to how a particular problem is conceptualised. This can be seen in the following sub-types of design-based research:

- *Design experiments*- These are characterised by experimental procedures drawn from aeronautical engineering, whereby prototype interventions are developed and tested under controlled laboratory

conditions before being trialled in 'real' classrooms (E.g. Brown 1992). The approach has its genesis in *constructivist* teaching experiments (e.g. Cobbe & Steffe 1983) with prevailing theories tending to be drawn from the field of developmental psychology (Bell 2004).

- *Social design experiment*- is a type of design experiment geared to 'transformative learning' for adults and children in non-dominant communities (Gutierrez & Vossoughi 2010). Informed by *critical theory*, these experiments have an agenda of social justice rather than improved cognition.
- *Design ethnography*- similar to social design experiments, this form of design-based research has the goal of empowering groups in order to facilitate social change (e.g. Barab et al 2004 p.264). The emphasis on intentionality and self-actualisation suggests a *humanist* perspective (e.g. Combs 1981).
- *Change Lab* - here the problem situation tends to be defined in terms of institutional systems and boundaries between groups of workers (e.g. Engestrom 2011). These experiments apply a *cultural historical* frame to the analysis of activity in order to characterise processes of organisational learning and development.

9.2.2 Historical differences in DBR epistemology

DBR has been shaped by different theories of learning throughout its history, from early constructivist teaching experiments to the more recent conceptualisation of contexts as ecologies. Table 15, overleaf, illustrates how the methodological approach of one key figure in the field, Paul Cobb, evolved both before and following Brown's seminal paper on design experiments in 1992. Cobb and Steffe's (1983) early teaching experiments were underpinned by the principles of *constructivism*. Mathematical contexts are realised by individuals rather than social groups, the researcher's challenge being to record the trajectory by which this is achieved. Here the ecology comprises micro interactions between individual learners and the concrete environment and, hence, required only a limited number of methods.

	Cobb & Steffe 1983 (Times cited-295)	Brown 1992 (Times cited-2281)	Cobb & Yackel 1996 (Times cited 540)	Cobb et al 2003 (Times cited 1238)
Setting	Laboratory: Clinical interviews; Teaching episodes. One to one .	Groups in laboratory and classroom settings	Classroom teaching experiment- research- ers and teachers collaborate	Laboratory (1:1 learning microcosm); whole class teaching; organisational learning/in-service teacher training.
Aim	...we attempt to understand the constructions children make while interacting with us. p.24	The question becomes, what are the absolutely essential features that must be in place to cause change under conditions that one can reasonably hope to exist in normal school settings? p.173	'...the teacher's role in guiding and organising both the classroom eco-social system and the activity of the children who participate in it could become an explicit object of analysis.' p.181design researchers seek to develop a deep understanding of the ecology of learning – not simply to facilitate logistics, but because this understand- ing is a theoretical target for the research. p.12
Theory	As the construction of knowledge is based on experience, the adult cannot cause the child to construct knowledge. In a very real sense, children determine not only how but also what mathematics they construct. p.24	In our current work, reciprocal teaching is only one component of the design experiment intended to encourage distributed expertise in a community of learners. p.149	Theories include: -Sociocultural theory- societal norms -Interactionism-classroom social norms -Psychological constructivism- how an individual's new understanding is co-constructed through interaction. p.180	
Context	"in order to understand a student's mathematical performances and to judge their abilities, one must consider the influence which the context of classroom instruction has on those performances". p.21	Just as it is impossible to change one aspect of the system without creating perturbations in others, so too it is difficult to study any one aspect independently from the whole operating system. p.143	'...the ecology of the classroom is semiotic and involves meaning making in which one thing is taken as a sign for another Learning can therefore be characterised as 'an aspect of self-organisation not just of the human organism as a biological system, but of eco-social systems in which the organism functions as a human being. p.180	We use the metaphor of an ecology to emphasize that designed contexts are conceptualized as interacting systems rather than as either a collection of activities or a list of separate factors that influence learning. p.10
Data typesthe data are generally qualitative rather than quantitative. The qualitative data emanate from rec- orded teaching episodes.	Our routine practice is to take fairly traditional pre-test and post-test data from all the experimental and control students and combine that with in-depth analyses of <i>some of the students</i> , complemented with selected case studies. p.156	Participant observation of whole class discussions and collaborative group activities. p.178products of learning (such as stu- dent work); classroom discourse; body posture and gesture; tasks and activity structures; patterns of social interaction; inscriptions, notations, and other tools; and responses to in- terviews, tests, or other forms of as- sessment. p.12

Table 15 A historical sequence of significant DBR publications by Paul Cobb

Brown reports that by 1992 major changes in learning theory had occurred that, in turn, had implications for how context was understood. The social turn meant that the conceptualised system was extended to encompass whole classrooms. Daniels (2001) characterises Brown's work as an example of '*situated learning*', whereby cognitive skills are socially constructed by individuals joined together in a '*community of learners*'. As can be seen in Table 14 this shift had implications for the number and variety of methods that Brown had to coordinate in order to study development in this way.

Although the subject of Cobb and Yackel's (1996) paper is also learning processes in classrooms, this setting was considered to be part of a wider ecological system that resembles Bernstein's pedagogic device. The contexts that are realised when children interact with designed pedagogies are semiotic eco-social systems that comprise three levels, each informed by a different orienting framework. The outer layer of the system concerns the regulative effect of societal norms and is informed by *sociocultural theory*. The middle layer represents the effects of these norms on teachers' and students' roles as explained through the lens of *interactionism*. Finally the innermost layer corresponds to the psychological effect of these interactions as explained by *constructivism*.

Cobb et al's 2003 paper maintains Cobb and Yackel's commitment to context as a multi-layered ecological system and stresses the need for multiple methods to capture data relating to the many variables involved. The purpose of the design experiment is now subtly different however. Rather than theorise the effect of a designed pedagogy on a system, the aim is to theorise the workings of a designed system taken as a whole. Taken together, this sequence of papers appears to confirm Anderson and Shattuck's (2012) suggestion that DBR is '*epistemologically agnostic*', with a free-floating approach to methodology that can be flexed to fit the prevailing theoretical climate. This methodological ambivalence is also evident at the programme level.

9.2.3 Epistemological diversity in DBR at the programme level

In a paper, entitled *'Where does good evidence come from?'* (2007) Stephen Gorard and Thomas Cook characterise education research as a standoff. On the one hand are the qualitative researchers, keen to preserve the context specific views and lived experiences of actors in a setting.

.....these individuals will not, and do not, like increasing the priority accorded to causal questions and methods. This priority is deeply threatening to them intellectually and instrumentally, hence their lack of support for the call to conduct more school-based experiments. (Ibid, p.320)

This reticence leaves quasi-experimenters and specialists in RCTs (randomised control trials) free to prioritise governments' need for prescriptive interventions that can be 'rolled out' speedily and at low cost. The result, the authors claim, is an ethnographic research agenda that is '*... stuck working towards a randomised trial that hardly ever gets done*' (Ibid, p319).

The solution offered by the Compleat model is to insert a design experiment into the no man's land between these two epistemological camps. To do so, Middleton et al (2008) started with a basic four step model that, in their view, typifies the traditional approach to scientific research of educational initiatives, leading to controlled trials (Figure 20, below)

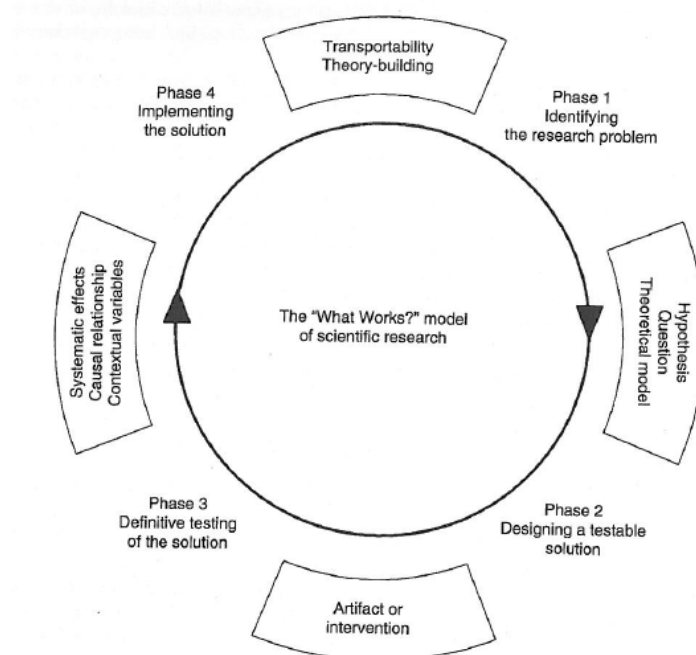


Figure 20 Basic model of scientific research in education (Middleton et al 2008, p.28)

The problem with this model, as they see it, is that it requires those who would design educational interventions to structure their inquiries around a limited number of a priori moderator variables. Like Basil Bernstein, they are clear that the principles behind this expedient are political and economic, not scientific or educational.

...the economic and social necessity for continuous improvement in education dictates that researchers and reformers engage in the design of tools, environments and systems without knowing beforehand either: a) all of the relevant parameters that impact on their eventual success, or b) the universe of potential designs from which their design will emerge. (Ibid p.26)

As a response, they inserted three more phases between *Phase 2- Designing a testable solution* and *Phase 3- Definitive testing* (Figure 21).

- *Phase 3- Feasibility study.* Interviews, observations. Characterising the setting ethnographically.
- *Phase 4- Prototyping and trialling.* Short term, small scale studies that alternate between natural settings (prototyping) and lab (trialling) and *characterise* key dependent and independent variables.
- *Phase 5- Field trials.* Quasi experiments *test* relationships between key variables prior to full scale definitive testing.

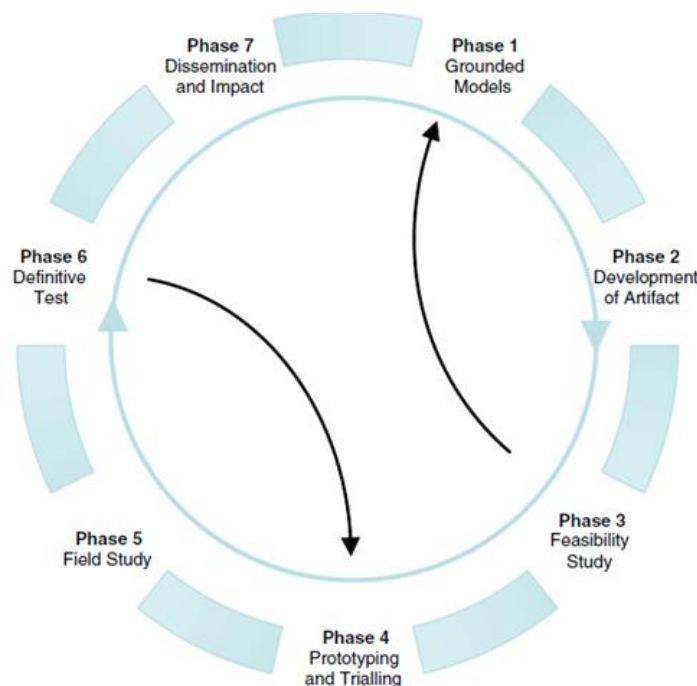


Figure 21 The Complete Design Cycle (Middleton et al 2008, p.32)

The Compleat programme *appears* to overcome the political and paradigmatic conflicts that characterise education research more generally. Essentially the design experiment forms a bridge that allows progression from idealist to realist epistemological commitments. Randomised control trials are difficult and expensive to run and so it makes sense to precede these with small scale naturalistic studies geared to identifying and validating key variables of value to practitioners and to clarifying, for example, what a meaningful comparison treatment would consist of (Sandoval 2004).

However, although the framework accommodates the need for meanings to be contested and problematised in the early stages of research, this is done simply to prepare the design for a later stage where the intervention is ‘locked down’ so that it can be subjected to test by RCT.

Once a series of satisficing objectives has been met the Compleat research process is ready to move on to the sixth phase, the definitive trial or evaluation. This phase is no different from the third phase of the original scientific model of educational research (Middleton et al 2008, p.31, my emphasis)

Hence, although circular in format, the Compleat schematic is nevertheless linear in its telos (Figure 22). It is essentially an attempt to fit a divergent initial phase for design research to a subsequent convergent process of product refinement and testing.

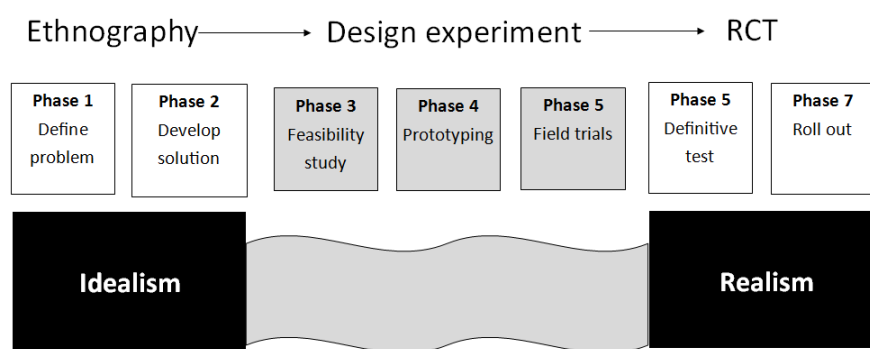


Figure 22 The Compleat model conceptualised as a linear bridge between research paradigms.

This violates a basic principle of design research- that learning contexts are dynamic ecologies and that, therefore, enactment of a given design cannot be prescribed in advance (Design-Based Research Collective 2003). Engestrom (2011), arguing against the linearity of design experiment methodology,

reasons that models such as Compleat ignore the fact that interventions are *always* contested phenomena and are continually reinterpreted by their users. This makes the notion of controllable independent variables both unworkable and undesirable.

9.3 Is design research a methodology?

From its launch in the early years of this century DBR has suffered sustained criticism as to its status as a 'scientific' methodology. Sandoval (2004) relates how the approach was initially greeted by some as a useful means to develop conjectures as to the causal mechanisms of pedagogic innovations, but without the necessary rigour to test the validity of these mechanisms. Confrey (2006) ascribes design research the status only of an evolving methodology and, although by 2012 Anderson and Shattuck are able to refer to it as a methodology, they do so with some reservation.

However, as promising as the methodology is, much more effort in this and other areas of education research is needed to propel the type of education innovation that many of us feel is required. (Ibid, p.24)

Confrey (2006) argues that to be accepted as a credible methodology, DBR must have the following:

- criteria for the conduct of research;
- a set of canons of evidence, and;
- adequate ground for the warrant of its findings

One would have to conclude from the analysis contained in this chapter that there is, as yet, no commonly agreed canon of evidence, grounding for warrants or criteria for conduct that consistently mark out DBR as a coherent research methodology according to Confrey's (2006) criteria. Instead, the planning and conduct of a design methodology is dictated by the particular domain theory through which the problem situation being addressed is modelled.

..... philosophers of science have warned us repeatedly that method, in the absence of theory, becomes hollow and procedural. (Confrey 2006, p.136)

9.4 Next steps

Kelly (2004) argues that a design methodology must have an articulated '*argumentative grammar*' if it is to be viable. This is the methodological rationale by which theory and methods are connected in answer to a given research question. Although DBR programmes may be guided by the same overarching principles, the particular methodological form and execution of each is specific to the theoretical and practical problem from which it departs (McKenny & Reeves 2013). In other words, there is no argumentative grammar that spans the breadth of design research. Instead, a '*designed*' methodology, underpinned by a clear argumentative grammar, is a key output of a DBR study and is itself a focus of the design process (Obrenovic 2011). The design of this grammar, as applies to the particular problem of learning ecologies for text interpretation, is the subject of the following three chapters.

Chapter 10 Overarching programme structure

This chapter proposes a programme structure specific to the design of learning ecologies in classrooms. It clarifies the long term methodological framework within which the project contained in the thesis is positioned.

10.1 Design-based research and complex learning environments

10.1.1 Ecological systems in DBR

Table 16, below, serves to illustrate the widespread commitment in DBR to conceptualising classrooms as complex social systems or ecologies.

Brown 1992 (2281)	<i>Just as it is impossible to change one aspect of the system without creating perturbations in others, so too it is difficult to study any one aspect independently from the whole operating system. p.143</i>
Cobb & Yackel 1996 (540)	<i>'...the ecology of the classroom is semiotic and involves meaning making in which one thing is taken as a sign for another.....Learning can therefore be characterised as an aspect of self-organisation not just of the human organism as a biological system, but of ecosocial systems in which the organism functions as a human being p.180</i>
Edelson 2002 (373)	<i>These new efforts pose important challenges for researchers, not because design is entirely new to educational research, but because the relationship between the design and the research is changing, and because the complexity of the designs and their settings present challenges for traditional research methodologies. p.106</i>
Cobb et al 2003 (1238)	<i>We use the metaphor of an ecology to emphasize that designed contexts are conceptualized as interacting systems rather than as either a collection of activities or a list of separate factors that influence learning. p.10</i>
Shavelson et al 2003 (268)	<i>By their very nature, design studies are complex, multivariate, multilevel, and interventionist, making warrants particularly difficult to establish. p.25</i>
Gorard et al 2004 (240)	<i>Design experiments are messier than traditional experiments, because they monitor many dependent variables, characterize the situation ethnographically, revise the procedures at will, allow participants to interact, develop profiles rather than hypotheses, involve users and practitioners in the design, and generate copious amounts of data of various sorts. p.580</i>
Collins et al 2004 (649)	<i>Design experiments have some fundamental limitations. Because they are carried out in the messy situations of actual learning environments, such as classrooms or afterschool settings, there are many variables that affect the success of the design, and many of these variables cannot be controlled. P.19</i>

Table 16 References to learning as an ecological phenomenon in the DBR literature (brackets are citation statistics from Google Scholar at the time of writing)

Taken together they infer that designed interventions cannot be treated as separable from the social situations to which they are applied. The terminology used is suggestive of an ontological tension that is also present in the domain theory. On the one hand, there is an emphasis on classrooms as stochastic and unpredictable places. Here, learning processes are characterised as ‘messy’, ‘complex’, or ‘self-organising’- in other words, they have a *relational dimension*. Yet there is also recognition that what happens in these contexts is not simply a matter of happenstance. Despite their complexity, learning contexts are nonetheless taken to be *systematic*, suggesting they also have a *structural dimension*. This has presented DBR with a methodological challenge from the outset- one that it is still struggling to resolve. What should the relationship be between *design* and *research*?

..... *design research fundamentally cannot live up to the claim of simultaneous design evaluation and theory building* (Sandoval 2014, p.19)

10.1.2 Design and research as a dialectic

Edleson 2002 traces the emergence of DBR to dissatisfaction with linear, theory-testing modes of research. Here the purpose of design was to translate a formal hypothesis into an artefact (e.g. a software product)- only then could it be systematically researched and tested. The assumption of an ecological system makes such an approach invalid because it denies that contexts can be specified in advance (Tripp & Bichelmeyer 1990). Instead, theories must be refined and developed in light of the design’s performance through use, hence

An important characteristic of design research is that it eliminates the boundary between design and research. (Edleson 2002, p.107)

This move in DBR to conflate design with research was influenced by Chicago pragmatism, especially that of John Dewey (Confrey 2006). In a paper originally published in 1922, Dewey argued against science as an activity divorced from educational practice. Using bridge building as a metaphor, Dewey asserted that analytic science acts as a brake on innovation because it pre-empts the need for an individual to struggle with the world’s inherent unpredictability and design his or her own solutions. In his view the cantilever

bridge would not have been invented had civil engineering only had the products of analytic science to guide it.

The formulae for construction, the rules of specific procedure, the specific types of problems and solutions had to wait upon presentation of appropriate concrete material, that is upon successful experimentation (Dewey 2009, p.2)

Pragmatism seeks to accommodate complexity in open systems through configuring analysis (research) and synthesis (design) as a dialectic. Design decisions are revised 'on the fly' through analysis of their consequences in action. In this way design and research are brought together in the conversations designers have with the situations they find themselves in (Holmberg 2014). Barton and Haslett (2007) give a description of how these principles apply in action research carried out in open systems. They define analysis and synthesis as follows

Synthesis provides understanding of purpose by putting things into context, while analysis provides explanations of how things work. (Ibid, p.150)

Barton and Haslett contend that a *socio-ecological problem space* is qualitatively different from the closed mechanical system assumed by analytic science, thus requiring a new form of scientific method. Drawing on Gibson's (1979) ecological psychology, they contend that social environments afford multiple 'causal textures', which are analysable only during synthesis. The form of the design evolves through concurrent analysis of its ability to control and change the environment in a way that reflects the needs of the user. According to the authors this dialectic coupling of analysis and synthesis leads to the development of theory that becomes successively '*richer and more concrete*' (p.147) with each experiential cycle of inquiry undertaken. The resulting design incorporates the logic of analysis and synthesis into a solution that is experienced as optimal by its users.

10.1.3 An example: Early experimentation in powered flight

Aeronautics has historically been cited as a metaphor for the conduct of educational DBR because of its concern with complex, dynamic and turbulent situations (e.g. Collins 1992). In a paper that explores the justification for this

canalogy, O'Neill (2012) makes the same contrast between closed and open systems as identified by Barton and Haslett (2007).

The meticulous analytic method of the Wright brothers is cast by O'Neill as the '*tortoise of cumulative science*'- the sort of linear, stepwise approach to design which DBR was originally introduced to counter (Edleson 2002). The Wrights tested concepts individually before adding them one by one to the full scale prototype. The concern was that the validity (and safety) of innovative ideas should be scientifically established in the wind tunnel before being integrated into the design of the 'Flyer'. The finished product, therefore, was treated as a closed system because its components were analysed separately and assumed not to interact when combined. O'Neill characterises the Flyer as a jumble of loosely connected ideas rather than a synthesised whole. It had a tail at the front, wings towards the back, and a rearward facing 'pusher' propeller.



a) The Wrights' Flyer



(b) Bleriot monoplane

Figure 23 Comparison of the design solutions produced by the Wright brothers and Bleriot

Louis Bleriot, on the other hand, is an example of what O'Neill refers to as '*the hare of intuitive design*'. In Bleriot's case, synthesis and analysis were concurrent, as proposed by proponents of DBR. His research rapidly shifted from one full scale prototype to another, making 'blind' changes that appeared to have little or no scientific warrant. Instead, Bleriot's innovations were informed by the craft knowledge and common sense of the community of fliers of which he was a member. Although a risky strategy, a tenet of this community was that crashes are a necessary part of model refinement because surviving an accident is itself a form of analysis. Despite his apparent lack of scientific method, modern light aircraft favour Bleriot's template over that produced by the Wrights' careful separation of design and research functions.

10.2 A critique of DBR's amalgamation of research and design

10.2.1 *Design and research as a dialogic relation*

The pragmatist philosophy underlying DBR posits that innovative and useful instructional designs arise when synthesis and analysis combine in the course of 'real life' goal directed classroom activity.

A seasoned teacher's understanding of what might work can help to blaze a trail through a massive design space when theory does not provide adequate direction.

(O'Neill 2012, p.16)

This, of course, assumes that teachers are always inclined to experiment when confronted with design spaces that theory fails to explain as, for example, is the case in teaching dilemmas. However, when faced with a dilemma, teachers will sometimes cling to a theory or regulatory principle despite its inadequacy in supporting the learning of students. In these instances one could argue that theory and design of practice must be separated if innovation is to be made possible.

..... while theory in the weak sense may be inseparable from practice, theory in the strong sense should keep its distance from practice...with no distance between theory and practice, theory cannot provide new perspectives, new ways of seeing....

(Kvernbekk 2012, p.303)

In other words, *strong* formal theories (that are generalisable, clearly articulated and refutable) allow the value judgements that underpin *weak* theories (localised assumptions, hunches, claims) to be held at arms' length and examined objectively. Far from constraining synthesis of innovative pedagogies, strong theories produced by analytic science may in some instances serve to enable it. In making this point, Kvernbekk implies that DBR's dialectic notion of theory refinement is flawed. DBR differentiates itself from mere design through its emphasis on theory generation- the focus of DBR is not just on producing a useful artefact but also a generalised model of a specific problem situation (Edleson 2002). This, however, ignores the fact that theory is essentially a form of symbol and is therefore dialogic in character. Design and research are activities with their own distinct 'accentual system'. The former is guided by human values, the latter by instrumental logic. Each then produces theories that express different, but to some extent complementary deontic codes that apply to inquiry in educational settings.

One can see evidence of this in the example given of the Wrights' and Bleriot's efforts at early flight. Bleriot and his compatriots were, according to O'Neill, motivated by nationalistic pride and flew in order to learn how to fly faster and further than anyone else. Here the code is human rather than technical, with inquiry governed by the intellectual virtues of *praxis* and *phronesis*. The art of *praxis* is activity as an end in itself (Biesta 2009)- we fly in order to fly faster. This relies on *phronesis*, a form of 'weak' theory that determines what is desirable in a situation. The Wrights, in contrast, were preoccupied with patent laws and commercialisation. The code they followed was technical, and so their scientific method prioritised the virtues of *poiesis* and *techne*. The art of *poiesis* is activity as a means to an end- we fly in order to meet technical and legal benchmarks. This relies on a grasp of 'techne' or practical skills in how things fit together which may, in turn, be informed by the 'strong' theories of episteme (Biesta 2009).

Each pioneer, therefore, addressed the same problem, but worked to entirely different codes prioritising different moral principles for inquiry- Bleriot that of design and the Wrights that of research. As with Eco's(1979) account of closed and open texts, it is the tension between the two voices within the same 'text' that allows novel 'possible worlds' to come into being. The plane that Bleriot flew across the channel incorporated vital 'wing warping' technology that he had copied from the Wright's Flyer. This innovation was developed entirely separately from his own inquiries and resulted from a different code of practice altogether. The 'wing warping' technology was not synthesised within his model so much as positioned in dialogue with it.

This 'double voiced' nature of theorised learning processes can be seen in Brown's (1922) seminal design experiment. She made it clear that she was not attempting a synthesis of experimental and ethnographic methodologies, nor was she treating them as entirely separate. Rather, data was seen to speak simultaneously from two separate codes, each comprising a different setting for

observing the same phenomenon –one open and dynamic, the other controlled according to a priori principles.

Theoretical advances can emerge from both the laboratory and classroom settings. They are just that, different settings whose features must be included in the description of the data they produce. (Ibid, p.154)

By preserving the distinct epistemological identities of these settings, Brown implies that findings from different paradigms cannot be synthesised into a single unitary concept. Theories can only ‘speak’ the language of the code under which they were developed. Biesta’s (2009) critique of Dewey’s bridge building metaphor makes this very point. He argues that designing bridges and designing educational systems are totally different enterprises. To amalgamate poiesis (e.g. evidence based prescriptions for teaching practice) with phronesis (e.g. teachers’ practical wisdom) is to compromise the human values of freedom and individuality that underpin the educational project. In researching and designing open systems, one is therefore not attempting to reduce praxis to techne or vice versa, but to allow one code to speak to the other in the pursuit of new insights. The objective is not a single design that generalises across different educational settings but multiple design variants that may be contradictory in their operation depending on the context of use.

instead of the unitary and upward-moving surge of progressive consciousness that we find in Hegel and Lukacs, dialogism conceives of history as a contest between monologue and dialogue, with the possibility of reversions always present. (Holquist 1990, p.75)

A symptom of the dialogic relation between design and research is, therefore, that ‘reversions’ are quite common, perhaps even desirable. This can be seen even in a technologically driven field such as aeronautics. A technically sub-optimal design that has failed can, in time, come to be highly valued because of the comparatively fluid nature of human needs and desires. The Wright’s ‘pusher’ configuration, that seemed so antiquated in the pioneering days of powered flight, still has currency due to changing political (Figure 24 left) and economic climates (Figure 24 right).

As O'Neill (2012) suggests, an educational intervention that fails in one context may simply have yet to find its socio-ecological niche in another.



Figure 24 MQ-9 Reaper unmanned drone (left) and the Gossamer Condor (right)

Designs find their niche when technical solutions are correctly *addressed* to the values of those that use them. This raises a related issue concerning the chronology of research and design of open systems. Although the basic principles of aerodynamics have changed very little over time, human values related to flight have altered relatively quickly over the last hundred years. This has led to a plethora of design types all drawing on the same theoretical constructs. This suggests that design and research speak not only to different deontic codes concerning the type of knowledge that is valued, but that these codes and their products evolve over different time scales.

10.2.2 An example: Pacing layers in architectural systems

Ing (2013) queries the anthropocentric take on learning systems that underlies Biesta's (2009) critique of Dewey. Instead of learning as a uniquely human phenomenon that occurs in designed environments, he suggests that environments, for example buildings, are an embodiment of these learning processes. Citing Brand (1994), he explains how '*pacing layers*' demarcate different speeds at which human knowledge and living space co-evolve. These are summarised in the Table 17, overleaf, alongside analogous layers in aircraft and school systems.

Virtue	Area of activity			Theory
	Housing	Flying	Education	
Episteme (Very slow)	<i>Geophysics</i> • <i>Site</i>	<i>Aerodynamics</i> • <i>Lift</i>	<i>Philosophy</i> • <i>Learning theory</i>	Strong <i>Technical</i> <i>rationality</i>
Techne (Slow)	<i>Architecture</i> • <i>Structure</i> • <i>Services</i>	<i>Aeronautics</i> • <i>Aerofoil</i> • <i>Propulsion</i>	<i>Pedagogy</i> • <i>Collection code</i> • <i>Integration code</i>	
Phronesis (Fast)	<i>Interior design</i> • <i>Space plan</i> • <i>Floor plan</i>	<i>Aircraft design</i> • <i>Purpose</i> • <i>Modifications</i>	<i>Design of lessons</i> • <i>Values</i> • <i>Practices</i>	Weak <i>Value</i> <i>judgements</i>

Table 17 Pacing layers in housing, flying and educational systems.

The *site* of a building is the layer of the system that changes the most slowly and outlasts anything built on it. Accordingly, knowledge of ‘site’ (episteme)

... concerns universals and the production of knowledge that is invariable in time and space and with the aid of analytic rationality. (Ing 2013, p.540)

With buildings, episteme could be represented by the science of geophysics. This corresponds to aerodynamics in the field of flight and theories of learning in education. All embody principles that derive from analysis and change little over time.

The *structure* of buildings (e.g. brickwork) and the services they contain (e.g. mains electricity) constitute the next slowest changing layer. Unlike episteme, techne is goal driven and is governed by the ‘*pragmatic instrumental rationality*’ of a given situation (Ibid, p.541). Architects, for example, apply material science to increase fuel efficiency and reduce carbon emissions. Aeronautics optimises the relation of propulsive power to aerofoil cross-section to maximise speed. With pedagogy, different curricula (e.g. Bernstein’s collection and integrated variants) are designed to optimise the pace and quality of learning in classrooms.

The layers of a building that change most rapidly are the space plan (e.g. non-load bearing walls) and floor plan, both aspects of interior *design*.

Although constrained by the technicalities of architecture, these changes are not *rule* driven but *ideal* seeking (Ing 2013). Design addresses human values and so may lead to solutions that are technically sub-optimal. Replacing windows in a room may improve the view but impair the fuel efficiency of a house. The same is true of teaching practice, perhaps particularly so in the case of teaching dilemmas. Teachers who manage dilemmas perceive themselves as sacrificing utility and efficiency in order to serve their beliefs about what the immediate situation requires. Their propensity to do so is not subject to the same relatively stable and predictable laws expressed in the philosophy of education, but rather the contingent nature of weak theories upon which their judgements are made minute by minute.

On this basis, it is argued that a research programme for the design and research of learning ecologies needs to accommodate a dialogue between two theoretical accents - one weak, one strong- each expressing different deontic codes that relate to the same object of study.

10.3 Rationale for overarching programme structure

10.3.1 Programme phases

Between its publication in Middleton et al (2008) and then latterly in Gorard (2013), some elements of the Compleat model were revised. In Phase One, '*Grounded Models*' became '*Evidence Synthesis*', reflecting a perceived need for reviews of extant research to be conducted more systematically. Phase 6, originally '*Definitive Testing*' was perhaps relabelled '*Rigorous Testing*' to accommodate alternatives to randomised control trials in establishing the transportability of effects across settings. Table 18, overleaf, presents a modified version of the Compleat cycle that reflects the analysis contained in this chapter.

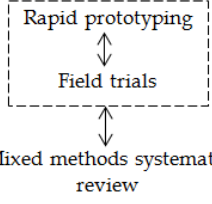
Gorard (2013)	Programme framework
<i>Phase 1</i> Evidence synthesis	<i>Phase 1</i> Evidence synthesis
<i>Phase 2</i> Development of idea	<i>Phase 2</i> Construction of domain theory
<i>Phase 3</i> Feasibility study	<i>Phase 3:</i> Feasibility study
<i>Phase 4</i> Prototyping	<i>Phase 4</i> 
<i>Phase 5</i> Field studies	
<i>Phase 6</i> Rigorous testing	
<i>Phase 7</i> Dissemination	

Table 18 Original Compleat programme structure (Gorard 2013) and modified programme framework.

10.3.2 *Evidence synthesis (Phase 1)*

Chapter Two of the thesis employed a systematic review to summarise extant theory and research into the type of teaching dilemma described in Chapter One.

10.3.3 *Construction of the domain theory (Phase 2)*

Guided by questions arising from the synthesis of evidence, Chapters Three to Six were given over to constructing a domain theory that would inform both the design of pedagogic materials (design framework) and the methodology by which they would be researched (design methodology). The domain theory provides a line of argument linking extant research to the methodological approach taken in the thesis.

10.3.4 *Feasibility study (Phase 3)*

The feasibility study involves short preliminary trials involving small numbers of children. The aim is to gauge the potential usefulness of the designed intervention as set against the cost to the school that subsequent development work would entail (Middleton et al 2008). The feasibility study also gives the researcher an opportunity to clarify the theoretical justification for the design for teachers. It allows the school to withdraw at an early stage

and with minimal disruption to the timetable should they decide participation would not be of benefit to students.

Phase 4 of the programme consists of cycles of research alternating between *Rapid Prototyping* (using ethnographic methods) and *field trials* (using quasi experiments) extending over a number of months or years and leading to intermittent publication of *systematic reviews*. This phase is conceived as being potentially infinite in length. Each component is explained in turn, below.

10.3.5 Rapid Prototyping (synthesis leading to analysis)

The key research question addressed during rapid prototyping is '*What is happening here?*' Behind this question is a *design conjecture* which posits the modes of interaction that use of the design is likely to produce (Sandoval 2014). The design conjecture in this study is as follows:

An elaborated coding procedure will emerge when the dominant deontic code of a given group is violated by the design.

Initially the design conjecture is weak in the sense that the prototype materials are not addressed to particular codes. In the early stages of prototyping the design simply expresses interpretive dilemmas as perceived by the designer. As prototyping proceeds, the design is adapted 'on the fly' in an attempt to make violation of code more likely. At first, this involves prospective changes to the format of the materials and then, once a useable format has been settled upon, more subtle and nuanced changes to content are made.

Table 19(overleaf) summarises key principles that characterise Rapid Prototyping methodology as described by Tripp and Bichelmeyer (1990). In many respects these are in sympathy with those that define DBR as a broad field of research and warrant the use of RP within a design-based research framework. As in DBR, instructional contexts in RP are seen as open, dynamically changing problem spaces in which users and designers construct their understanding of each other and the situation on an ongoing basis (Tracey and Unger 2012). Design, user and environment therefore comprise a unified

system. A design which models a learning system is modified according to its perceived effect when operating as part of that system.

.....*rapid prototyping in instructional systems design is the building of a model of the system to design and develop the system itself.* (Tripp & Bichelmeyer 1990,p.36)

Rapid prototyping
Solutions are uncountable in number- design process is endless
Situated notions of cognition
Synthesis precedes analysis
Bounded rationality- rendering of the problem space is revealed only through use of the design
Little commitment to initial prototypes which are treated as a starting point for inquiry
Efficacy of the design is subjective and depends on the value perspectives of researcher and user
Small sample size- close observation of interaction
Use of the design leads to discovery of new objectives
Outcome is a design that optimises instruction in specific contexts
Contradictory cases elaborate the theory underpinning the design

Table 19 Rapid Prototyping principles (Tripp & Bichelmeyer 1990)

Perhaps the most obvious similarity between RP and DBR is a pragmatist take on validity- designs are proven not according to a strong a priori hypothesis but by the extent to which they optimise goals according to ‘weak’ theories. This emphasis on value judgements rather than objective measurement in RP means that settings are characterised ethnographically- the intention being to research how the design is interpreted and made sense of by its users and its designer. Through iterations of rapid prototyping the relationship between designers, learners and practitioners becomes increasingly ‘symbiotic’ allowing new potentials and barriers to come to perception (Nixon & Lee 2001).

DBR and RP are both prescriptive in their intent and prioritise the advancement of theorised interventions (Tracey & Unger 2012). Despite its denial that contexts can be comprehensively specified in advance, RP does require initial speculation as to the nature of the conjectured problem space. These speculations constitute a ‘*bounded rationality*’, providing an entry point

for inquiry without determining the later course of that inquiry (Tripp and Bichelmeyer 1990). Consequently there is little emphasis on ‘freezing’ of the design in order to establish statistically significant effects. Instead, RP tends to involve intensive study of small groups of people using rough a simulacrum of the finished product over a relatively short period of time (Hung et al 2010). In this sense it would be more accurate to talk of adopting an ‘ethnographic approach’ within RP rather than ‘doing’ ethnography in its fullest sense (Flewitt 2011).

Retrospective analysis of cases encountered during rapid prototyping is geared to generating *process-oriented* explanations of causal effect (Cobb and Gravemeijer 2008, p.76). Analysis of data allows design conjectures to be formulated that are specific to particular social situations. This, in turn, guides the production of variants of the task materials, each designed to violate a particular type of code. Subsequent field trials are the means by which these outputs of rapid prototyping are then systematically tested.

10.3.6 Field trials (analysis leading to synthesis)

The purpose of field trials is to systematically test the effect of prototypes within a controlled, closed system. The research question now becomes *Is there a systematic effect?* the aim being to establish the validity of the theoretical conjecture expressed by the domain theory, namely:

Students’ improved ability to perceive interpretive dilemmas as intended by the designer will be associated with repeated shifts from restricted to elaborated coding procedures.

This presents two challenges. The first is to demonstrate that changes in the target variable, namely students’ ability to perceive and manage the interpretive dilemmas intended by the designer, are caused by the introduction of a dilemmatic pedagogy addressed to their particular code. Single subject experiments are well matched to the study of microgenetic change in learning processes (Kazdin 1982), with the variant referred to as ‘*alternating treatment*’ or ‘*alternating conditions*’ adopted in this case. The experiment proposed in Section Five of the thesis involves two alternating treatments:

- *Treatment 1*- Design of the dilemmatic pedagogy is *unaddressed*- no account is taken of the deontic code of a given group.
- *Treatment 2*- Design of the dilemmatic pedagogy is *addressed* to the specific deontic code observed to operate within a group of students.

The conditions are rotated so that each group of students is exposed to each condition for an equal duration over the course of the experiment. The number of incidences in a session where a group recognises and manages the intended interpretive dilemmas is plotted in the manner shown below, in Figure 25.

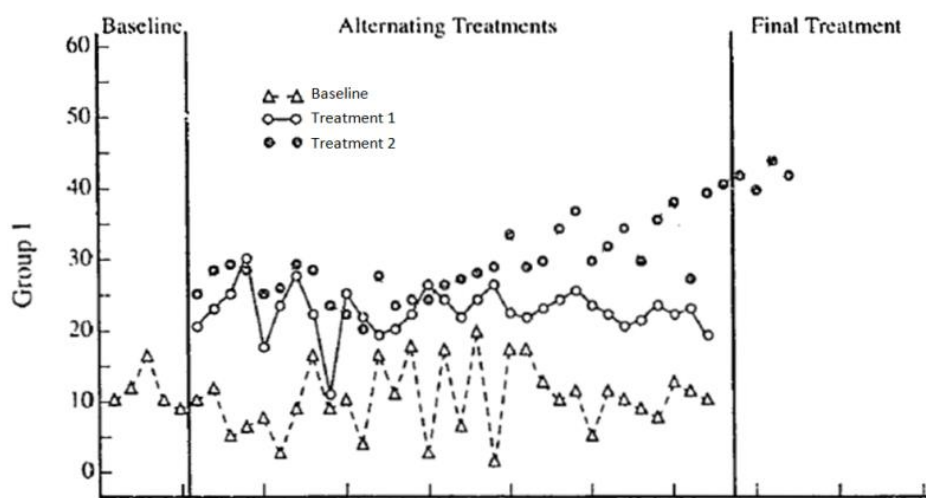


Figure 25 Comparing effects in an alternating treatments single subject experiment (Taken from Neuman and McCormick 1995, p.80)

These quantitative data can be then be triangulated with transcripts of students' interactions to meet the second challenge- testing the hypothesis that these incidents are marked by a shift to variants of elaborated modality. In contrast to rapid prototyping, therefore, analysis of the experimental data is geared to producing a causal description based on *regularity* (Cobb & Gravemeijer 2008, p.76). This leads to further refinement of the domain theory and prescriptions for practice that initiate the next iteration of Rapid Prototyping.

10.3.7 Mixed methods systematic review

A key challenge in DBR studies is the problem of establishing the effectiveness of a design across different contexts. For some, randomised

control trial (RCT) is the ultimate tool for proving causal effect (e.g. Gorard & Cook 2007). Sandoval (2014), on the other hand, argues that in cases where a phenomenon is contingent to social setting, testing should be geared to exploring how and why effect varies between contexts, rather than establishing a single generalised effect across contexts.

It is not at all clear, however, that a trajectory from smaller to larger scale is the only or best trajectory for design research. Taking the context issue seriously, in fact, suggests research trajectories as pursuing contextual variation....where new contexts are chosen to illuminate the influence of Cronbach's (1975) "local departures" (Sandoval 2014, p.32)

Meta-analysis is an alternative to the null hypothesis testing logic of RCTs that would facilitate such an approach. Its use of effect size estimates allows the results of small scale studies to be aggregated, enabling an analysis of impact across a number of settings. However, there are two issues that complicate its use within this programme. First, traditional meta-analyses employ an effect size metric that assumes a between-groups pre/post-test experimental design (Cook et al 1992). Single subject designs are not structured in this way and do not employ comparison conditions. There are, however, several techniques that have been advanced for the generation of effect sizes from single subject experiments (Shadish et al 2008; Manolov et al 2011; Beretvas & Chung 2008). Although far from straight forward or free from criticism, it is certainly possible to generate effect sizes from single subject experiments.

Secondly, meta-analysis also assumes that treatments do not vary significantly across conditions (Hedges & Olkin 1985). However, such variation is intrinsic to an ecological conception of educational interventions- designs are 'double voiced', simultaneously expressing multiple values that regulate their use. Gorard et al (2004) suggest mixed methods synthesis as a potential solution to this problem. Segregated research syntheses combine quantitative measures of effect with qualitative data in order to configure how and why effect size varies across different conditions (Sandelowski et al 2006). As discussed previously, the intent is to map a problem space rather than prescribe a practice. The potentially infinite size of this problem space means

that, in theory at least, the alternation between RP, field trials and systematic review is an iterative process without end.

10.3.8 Dialogic structure of the programme

Figure 26, below, illustrates how the above phases are coordinated within a dialogic conception of a design research programme.

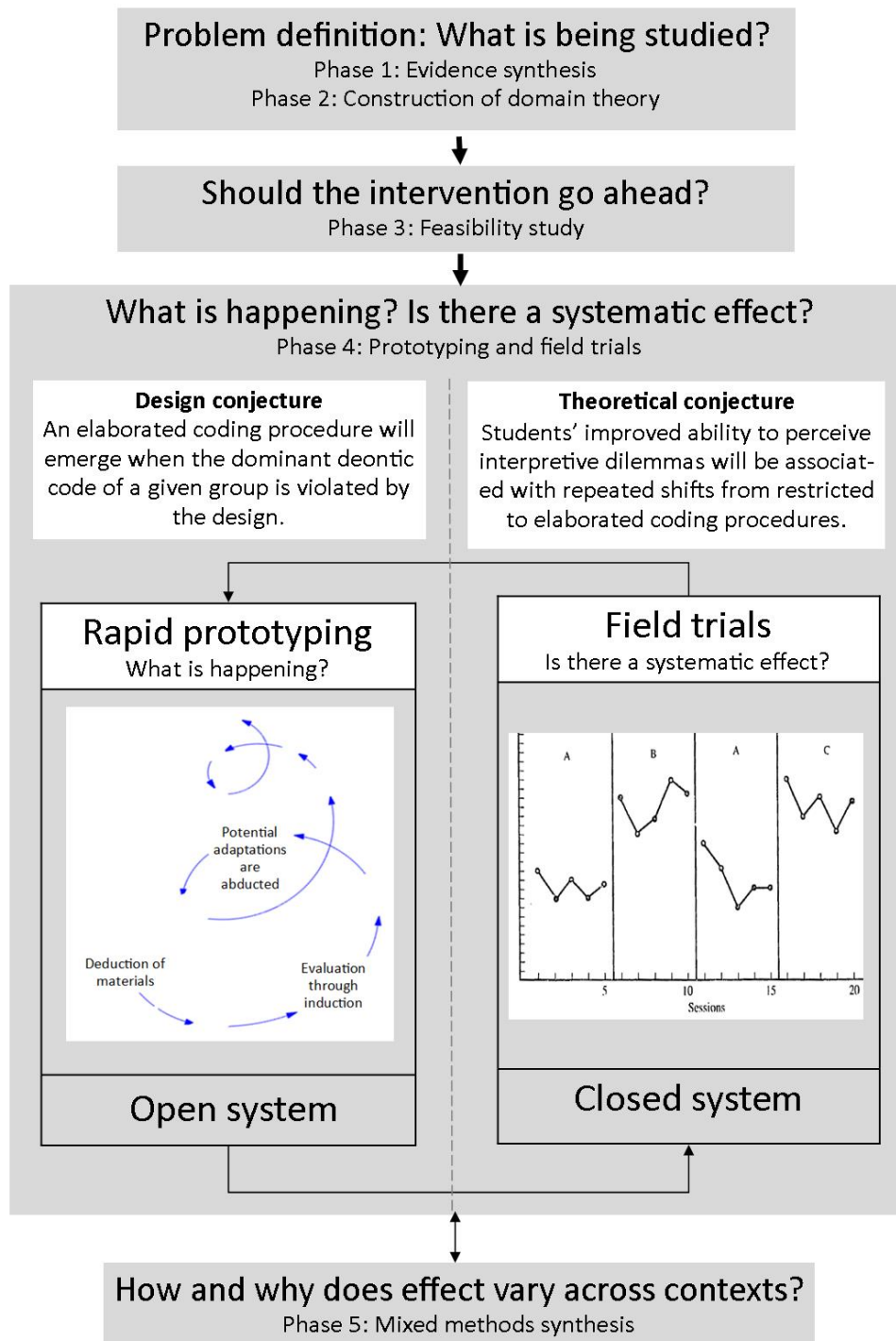


Figure 26 Dialogic DBR programme for the design and research of learning ecologies.

10.4 Next steps

DBR is premised on the notion that learning environments can be designed as well as researched. However, the field has been criticised for its failure to make clear what these phenomena are and how methodology can be specifically tailored to their research and development.

These notions of complex units of analysis suffer from vagueness. Talking in general terms about systems, dynamics, and components is not enough. What exactly might be a useful model of the anatomy of such a dynamic learning environment? If design researchers do not specify and model the crucial components and relations of their proposed units of analysis, a decisive connection between theory and methodology is severed. (Engestrom 2011, p.600)

If it is the function of the domain theory to specify the components of learning environments modelled as ecologies, then the argumentative grammar serves to justify how these models are researched empirically. The programme developed in the course of this chapter is a broad response to this challenge. It sets out the rationale for an overarching design research programme that accommodates both the open and closed conceptions of learning contexts. Within the confines of the thesis, however, it is only possible to execute a single rapid prototyping phase and demonstrate how this leads to the design of a single subject experiment for field trialling. The next chapter provides the rationale by which ethnographic methods have been recruited to the process of rapid prototyping and, in particular, their role in development of the domain theory.

Chapter 11 Argumentative grammar for rapid prototyping phase

This chapter details the rationale for using ethnographic methods within the rapid prototyping phase. It establishes the epistemological basis for connecting ethnographic data to a domain theory that models interpretive dilemmas as an ecological phenomenon.

11.1 Using ethnographic methods to theorise learning ecologies

11.1.1 Analytic ethnography

Analytic ethnography seeks to provide a corrective for what Lofland (1995) referred to as '*the missing analytic moment*' - the tendency for traditional ethnography to equate construction of the ethnographic text with formulation of theory. However, Lofland's original conception of analytic ethnography was centred on a mode of inductive, emergent theorising that is incompatible with the sort of speculative a priori domain theory derived in Section One. More recently, however, Snow et al 2003 have questioned this commitment. They argue that if analytic ethnography is to contribute to '*discourse across subfields*' of social science, it must have a theoretical orientation from the beginning.

....ethnographers need to be oriented toward larger theoretical concerns from the outset of their projects by, at the very least, being sensitive to the range of theoretical relevancies of their orienting research questions and of the alternative paths through which those questions might be linked to theoretical development (Ibid p.185).

To defend their proposition, Snow et al draw a distinction between *substantive* and *formal* theory that echoes Kvernbekk's (2012) distinction between weak and strong theories discussed in the previous chapter. Substantive theories seek to explain the mechanics of distinct situations- formal theories specify relations across situations. Snow et al outline a four step process for theory refinement by which substantive and formal theories are brought into relation with one another in ethnographic research. These four steps are consistent with the overarching programme structure outlined previously.

Stage 1	<i>'One is to approach the field with familiarity with a repertoire of relevant substantive and formal theories, but without having those theories function as the sole determinant of what is attended to and seen. From this vantage point, we view theories more in terms of repertoires than blueprints'</i>
Stage 2	<i>'Second, we contend that one should become as immersed in the context as possible, but also have an eye open to the possible generality of what's being observed.'</i>
Stage 3	<i>'Third, in examining one's field observations, one should allow the data to speak as loudly as the theories, so that they mutually inform each other.'</i>
Stage 4	<i>'And fourth, as refinement of one or more theories proceeds, it is imperative that the researcher revisit his/her notes, and perhaps even the field, with the objective of capturing data that further substantiate the evolving refinements.'</i>

Table 20 Four stages approach to analytic ethnography, quoted from Snow et al 2003, p.193.

The domain theory is a bricolage of formal theories garnered from the literature- it is a *conjecture* that guides but does not determine rapid prototyping (*Step 1*). Prototyping fieldwork involves keeping both the domain theory and 'local logics' in focus at the same time (*Step 2*). In practice this means that although the design framework introduced to the classroom (the materials and their principles for use) is informed by the domain theory, their adaptation during prototyping is done primarily on the basis of deductions made 'on the fly' by teachers and researcher (O'Neill 2012). The purpose of the retrospective analysis of data, therefore, cannot be to validate or falsify the domain theory, but to achieve what Kelly (2004) describes as '*model formulation*' (*Step 3*). Variants of this theoretical model serve to inform the design of different prototypes whose effects then are systematically tested by means of a single subject experiment (*Step 4*). However, the robustness of this process, as in all empirical research, rests on how compatible are the basic epistemological and ontological assumptions that underpin it.

11.1.2 What is wrong with ethnography? (Hammersley 1992)

In his essay *What's wrong with ethnography?* Martyn Hammersley argued that theorising in ethnographic research may have no more claim to objectivity than does 'armchair reflection' or writing a novel. Given the distorting effect of an a priori theory, ethnographic researchers cannot claim that their descriptions correspond directly to a real state of affairs.

... descriptions cannot be theories, but all descriptions are theoretical in the sense that they rely on concepts and theories. Given this, what sense can we give to ethnographers' claims that their descriptions are distinctive in being theoretical?
(Hammersley 1992, p. 13)

This problem is taken up by Hegelund (2005). Like Hammersley, he dismisses naïve realism (i.e. the belief that field notes and the like are a transcription of reality) as an extreme position that cannot account for incommensurability in social science research. The alternative, following the tenets of 'philosophy of science', is that data and researcher cannot be separated- that data are inevitably selected according to researchers' 'naturalised preconstructions'. Data are transformed through a gestalt shift that makes some aspects of context salient whilst relegating others to the background. Hence

Seeing something is seeing it as something. (Hegelund 2005, p.656)

In other words, data from the same designed learning environment will be selected differently by different people working in different research traditions. Validity, therefore, is cast by Hegelund as a *cumulative* quality- something that increases the more perspectives are applied to the analysis of a given situation.

The more we apply applicable perspectives, the more we will be able to understand the setting, and the more objective the knowledge becomes. (Hegelund 2005, p.663)

However, Hegelund's paper only gives serious consideration to the latter of two hypotheses that are expressed below

Do I really see something different each time, or do I only interpret what I see in a different way? (Hansen 1958 quoted in Hegelund 2005, p.657)

Variability in ethnographic accounts of the world is explainable by variability in modes of perception across different research traditions. In the language of Gibson's (1979) ecological psychology, each setting affords the same data, but our different effectivities prevent us giving a consistent account of them, hence

... representation must always be from some point of view which makes some features of the phenomena represented relevant and others irrelevant. There can be multiple non contradictory and valid descriptions and explanations of the same phenomenon.
(Hammersley 1992, p.51)

However the first half of Hansen's question assumes something different altogether- that reality itself is unstable and that variability at the level of data is a reflection of this. In other words, even if researchers were able to collect and report all the available data (which they cannot), there would still be no enduring structure or pattern that could be discerned in them. Instead, what would be revealed is a dynamic system whose structural properties are in a constant state of change. DBR, it will be remembered, is a mode of research that is committed an ecological ontology.

This makes a nonsense of Hegelund's assertion that objectivity in ethnographic theorising can be achieved cumulatively because it denies that there is a stable ontological structure underpinning these data that is available to be theorised. If there is no enduring 'law of nature' to be found in data, then what exactly is it that a domain theory of learning ecologies is modelling? By what line of reasoning can ethnographic data be applied to the refinement of this model?

11.1.3 Ontological domains

Banfield (2004), in critiquing Hammerlsey's (1992) case for subtle realism, suggests that the seeming intractability of this problem is an artefact not of reality itself but, rather, how context is theorised in ethnographic research. He suggests that Hammersley's account of theorising in ethnography is '*ontologically shy*' (p.55) because it collapses epistemology and ontology into one another. Specifically, structures (laws, principles) influence but do not determine events (what people do) which, in turn, do not determine the data (texts) by which these events are coordinated. Analysis must take into account the fact that each level can vary independently of the other, meaning that contradictory descriptions of interaction can relate to the same underlying mechanisms and vice versa.

Banfield uses Bhaskar's (1978) transcendental model of social ontology to develop this point. This posits that social reality is not a unitary construct but comprises three domains, as shown overleaf in Figure 27.

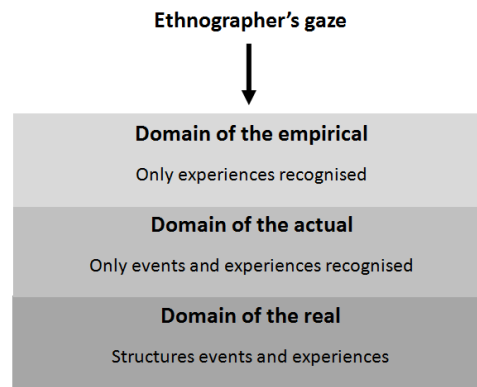


Figure 27 Bhaskar's three ontological domains, taken from Banfield 2004, p.59.

In the *domain of the real*, a variety of *structures* may combine to produce *events* that are then *experienced*. Banfield defines structures as '*persistent relations between people and groups*' (p.59). In the *domain of the actual* there is recognition only of events and experiences, not the structural mechanisms that give rise to them. The *domain of the empirical* consists only of the data that are experienced and observable by all individuals in a setting, including the researcher. Here there is no direct access to events or structures- these must be inferred from people's speech, gestures and so forth. Crucially, therefore, events are not in and of themselves considered to be the sole source of patterns in experiential data, they also originate in structures.

The error of Actualism lies in its attribution of causal powers to events and the denial of ontologically deep mechanisms that may, in fact, codetermine a range of events.
(Banfield 2004, p.61)

Banfield provides the following metaphor that may serve to clarify how his conception of ethnographic theorising relates to the domain theory developed in Section Two. Petrol (*the dilemmatic pedagogy*) is volatile because of its *structure*. From a dialogic perspective, all signs incorporated into the design of the pedagogy are stratified according to the competing accentual systems that exist in a society. The tensions between its atoms (*the field of stimuli and action tool*) mean there is *always* the potential for the *event* of combustion ('*eruption*' of *interpretive dilemmas*). However, combustion only occurs when petrol is activated by other structures *external to itself*, e.g. sparks, oxygen (here the *particular matrix of students' deontic institutional codes present in a collaborative situation*).

The alignment of these structures (*pedagogy and ideological matrix*) in a social situation may initially be a matter of happenstance but, once achieved, the events that ensue (*coding procedures*) may follow a pattern that is inconsistent but forecastable to a degree. Some groups may *often, but not always*, realise combustion as heat (*heated arguments*), others as light (*playful interpretations*).

The ethnographer, situated in the domain of the empirical, has no direct access to any of these structures, events or experiences, but must reconstruct *interpretations of the students' interpretations of events* through an analysis of the texts (jokes, arguments, gestures, silences) by which they position themselves and each other in the space. The crucial difference between Banfield's and Hammersley's account of ethnographic theorising is that a stable and ever active law of nature governing the pattern of events cannot be inferred directly from these data. Theories, instead, are probabilistic rather than deterministic- they model a state of affairs at the level of structure which can be used to develop forecasts as to the events and experiences that *may* transpire from them. In terms of the thesis aims, it may be possible to model configurations of the dilemmatic pedagogy that are likely to stimulate elaborated coding procedures in particular types of groups and also forecast the range of speech, gestures and emotions that will likely accompany such a switch.

Events are not determined by mechanisms and causal laws are not predictions. Explanations generated by ethnography or the work of any social science refer to mechanisms that may or may not be active at any point in time. (Banfield 2004, p.60)

This notion of 'deep structures' underlying complex events provides a way of understanding how Hegelund's notion of cumulative objectivity can be meaningfully applied to the ethnographic study of *learning ecologies*.

11.1.4 Applying ontological domains to the concept of learning ecologies

Jay Lemke (1997) describes learning contexts as a type of self organising system using three concepts that are broadly in sympathy with Banfield's three ontological domains- these are shown in Figure 28. The *ecosocial system* is an ecological universe that contains the totality all things- including structures, events and texts. Individuals are connected to all other things in the ecosocial

universe through networks that have physical (e.g. chemical biological), social (e.g. interpersonal) and cultural (e.g. political, religious) dimensions. The overall dynamics of the system depend not on these dimensions per se but on the sum of all countervailing values that are assigned to them at any one time.

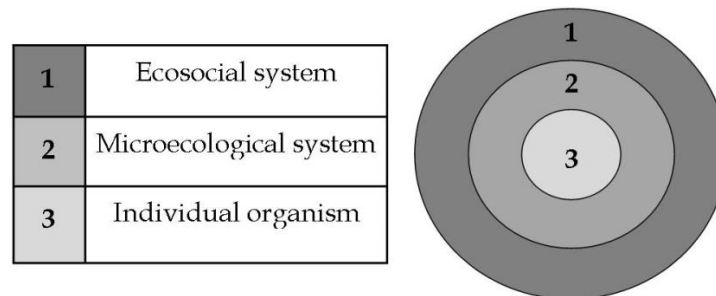


Figure 28 An ecosocial system based on Lemke (1997)

The next level of analysis is the *micro-ecological system*. This term refers to situated ‘communities of practice’ within the ecosocial system. Each is an immediate concrete situation comprising the subset of all social relations, cultural tools and physical sensations in the ecosocial system through which a group of people actively coordinate their activities in the service of a shared value. Part of the wider ecosocial system, this shared value is in a state of dynamic change caused by events both inside and without the micro-ecology.

How we interpret the meaning of a situation, and how we participate in a situated activity, depends on a wider system of cultural formations (discourses, genres, activity-types, institutions, modes of representation) not fully available or wholly contained in the immediate situation itself. (Ibid, p.49)

Finally there is the *individual organism*, conceived of as a self-organising epigenetic system. Lemke’s person is a biological-sociocultural hybrid, formed by the unique combination of processes (physical, social, cultural) available within the ecosocial system that have been experienced through activities dispersed across multiple micro-ecologies. This organism not only reacts to the wider ecosocial system but, over time, acquires modes of perception-*preferential saliences*- through which it constructs meaningful patterns from experience. These saliences can reflect normative or highly esoteric orientations to meaning depending on the degree of serendipity in a given life course. Hence, physical, biological, cultural and social structures across the ecosocial

system are present but not always active within a given microecology- their activation depends, in part, on the mix of preferential saliences by which a shared activity is regulated by those present.

There is no master control program within the system that determines the form of the patterns it achieves. There are only the regulating and constraining inputs to the total dynamics of the system. (Ibid, p.43)

The consistency between Lemke's and Bhaskar's models suggests that there are three levels of analysis when interpreting ethnographic data collected within learning ecologies. These are shown below in Figure 29.

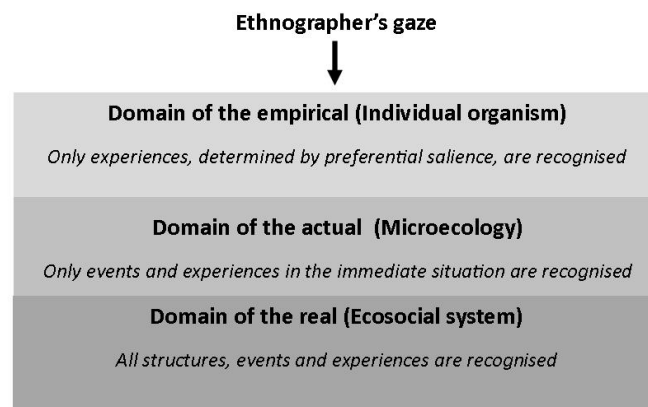


Figure 29 The ontological domains of learning ecologies

11.2 Argumentative grammar for the analysis of prototyping data

11.2.1 The function of the argumentative grammar in design based research

Retrospective analysis in DBR involves generating hypotheses as to the contingent effect of a design from analysis of qualitative data gained through ethnographic methods (Cobb et al 2003). The analysis typically takes the form of a narrative that specifies how actors, events and designed materials were observed to combine in complex ways and to different effect. Tabak (2004), however, warns that such an approach is vulnerable to confirmation bias. Unlike traditional ethnographies, the narratives related in DBR are theory driven. Designers already know the story they hope to tell before they arrive at the site. A key challenge, therefore, is making this 'storytelling' objective enough to support the theoretical claims it gives rise to and also enhance the replicability of the study (Shavelson et al 2003). The issue of *circularity* is one

that Basil Bernstein (2000) recognised and sought to resolve through inserting a 'potential discursive gap' between data and theory.

'The principles of description of the 'something' external to the model must go beyond the realisation rules internal to the model (Ibid, p.209)

An analytic framework should be consistent with, but not constrained by, the parameters of the domain theory. It should be broad enough to allow relations to be realised from analysis of a phenomenon that are not present in the model of that phenomenon. Cobb and Gravemeijer (2008) argue that an *analytic framework*, consistent with the proposed domain theory but separable from it, should be used to this end. The purpose of such a framework is to provide the basis for an '*argumentative grammar*' by which the warrant of subsequent modifications to the domain theory can be grounded in the analysis of data (Kelly 2004).

11.2.2 Levels of analysis in the argumentative grammar

Figure 30, overleaf, shows the levels of analysis, based on Lemke (1997), upon which the argumentative grammar for theory refinement is based.

The *ecosocial system* encompasses the universe of principles, agencies, ideologies, tools and actors in the social world- it is the equivalent of Eco's concept of encyclopaedia. The ecosocial system of schooling is modelled by the domain theory in its full form (A), as derived in 5.4.2 (see p.66).

Micro-ecological systems comprise the subset of actors, tools, principles and values by which activity is coordinated within a given situation. The iteration of the domain theory presented at the end of Chapter Seven models a micro-ecological system specific to interpretive dilemmas in classrooms (B).

The *individual* is a form of epigenetic system whereby preferential saliences acquired from previous experience guide the selective attention of the subject as they navigate the ecosocial system. The domain theory models only perception of the dilemmatic affordances of the designed materials (C).

At each level, therefore, the domain theory is only a subset of the analytic framework.

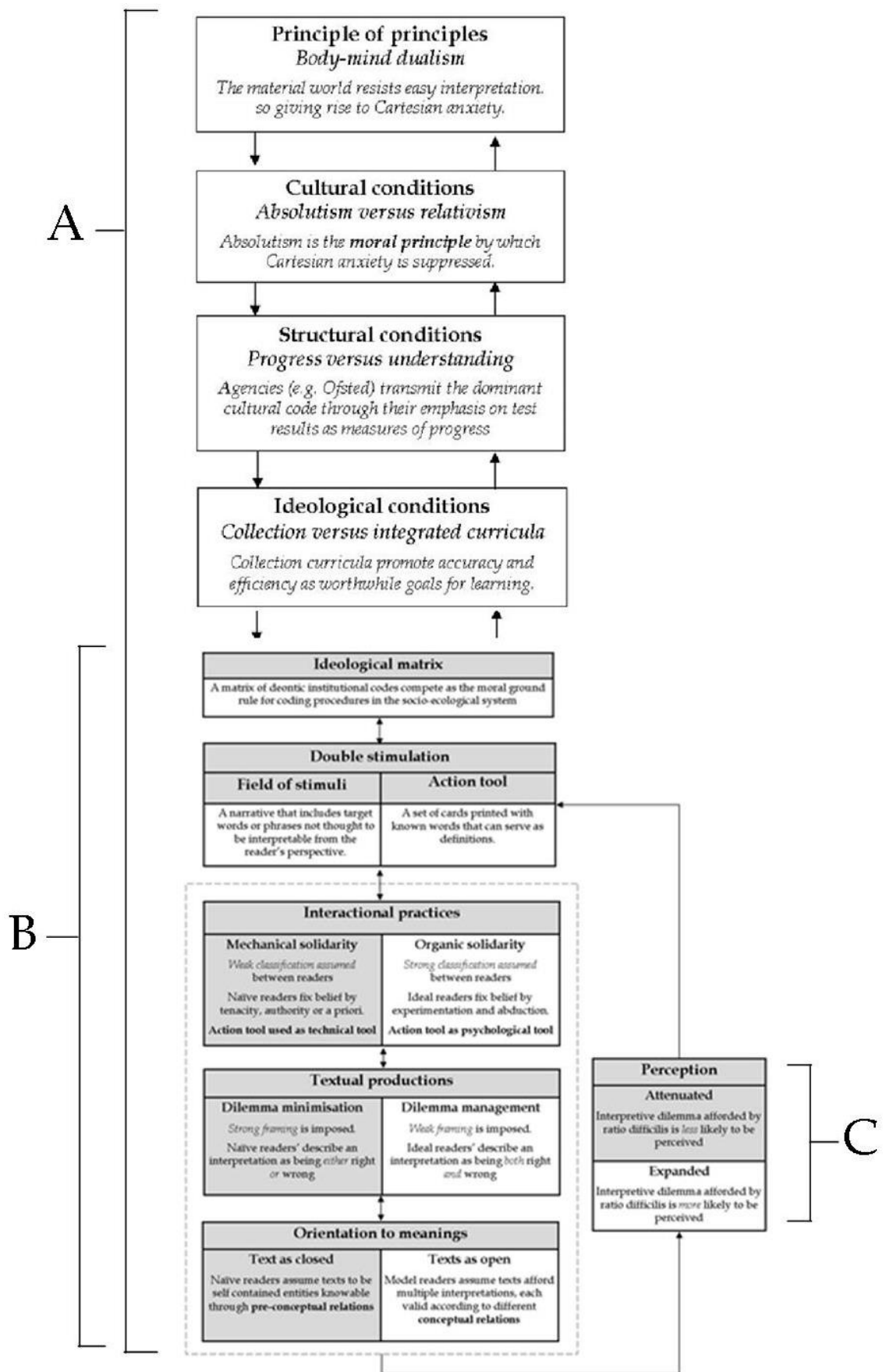


Figure 30 Levels of analysis in the argumentative grammar

The assumption of an ecological system means that no level in the system can be considered as separable object of analysis- instead, they are taken to be in a constant state of interdependent flux. The decision to focus the analysis at the micro-ecological level is not a denial of this, more a recognition as to the type of inferences that can be warranted within the scope of the thesis. It might be possible, in time, to develop speculative models linking the wider ecosocial system to the preferential saliences of individual students. However, the aim of the prototyping phase is limited to modelling and forecasting specific micro-ecological systems to which a bespoke design of dilemmatic can be addressed. The extent of analysis *here* is limited to this goal, but is not limited to this goal *per se*.

This, of course, raises the question of units of analysis for the design and research of learning ecologies. Saljo (2009) defines an adequate unit of analysis as the smallest aspect of a system that preserves the unity of the whole. For the purposes of the thesis, the interpretive dilemma serves as the unit of analysis of a learning ecology because they incorporate all levels of the system as regards text interpretation. The texts (speech, gestures, artefacts) students produce when unable to make an easy choice between competing interpretations are indices of events (coding procedures) that derive from tensions at the level of cultural institutions. The focus is therefore not on an analysis of reading *per se* but on the interactional practices by which students position themselves and each other when they do so collaboratively. This is consistent with Basil Bernstein's assessment of the units of analysis that should apply to the study of invisible pedagogies.

We cannot consider skills abstracted from the context of their transmission, from their relationships to each other and their function in creating, maintaining, modifying or changing a culture.... Thus the unit of analysis cannot simply be an abstracted specific competence like reading, writing, counting but the structure of social relationships which produces these specialised competencies. (Bernstein's 1975, p.34)

11.2.3 Analytic components of the designed micro-ecological system

The components of the micro-ecological system that are to be operationalised in the analysis of prototyping data are shown below in Figure 31. They are based on Banfield's (2004) description of *structures* (A), *events* (B) and *experiences* (C)

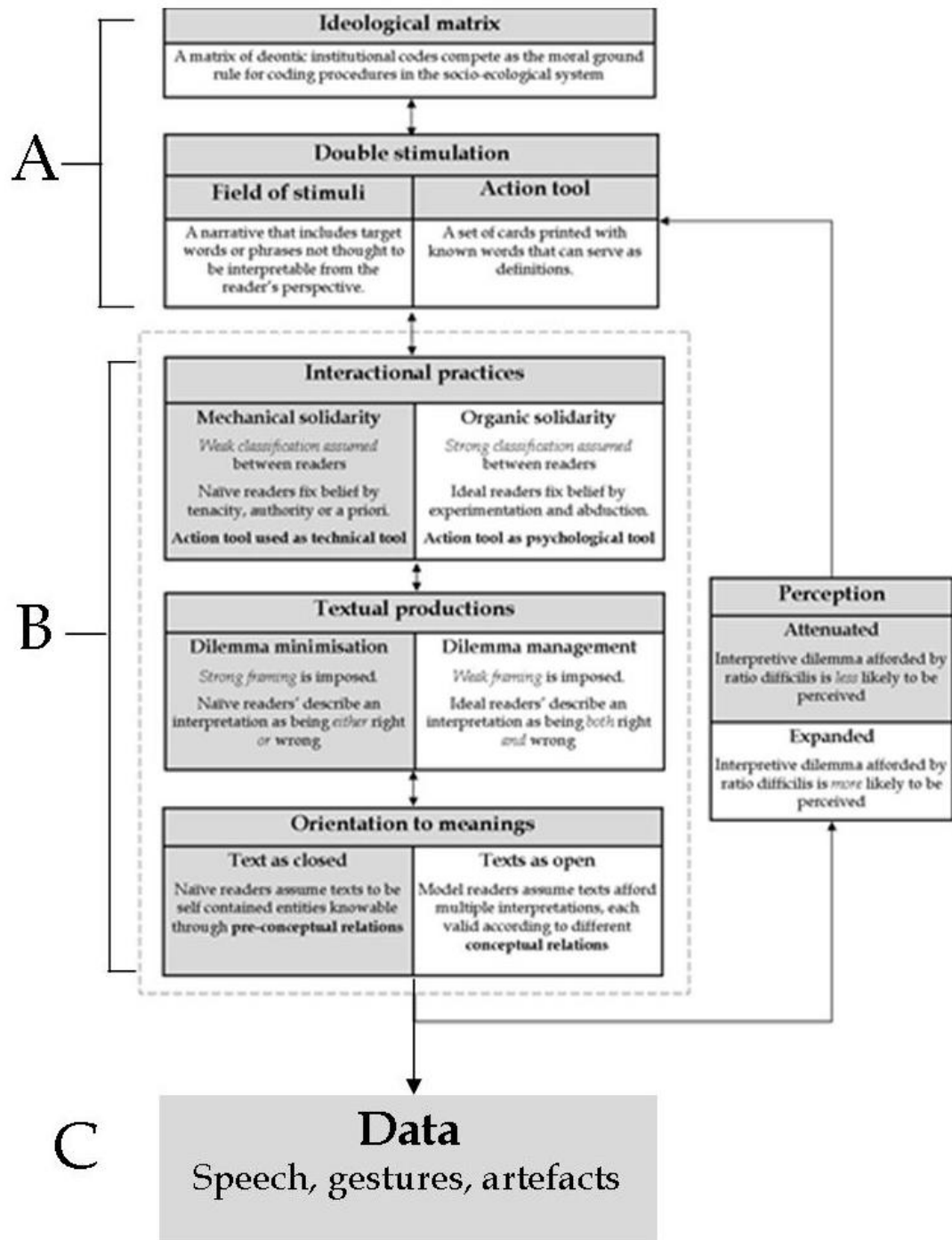


Figure 31 Analytic components of the micro-ecological system

Analysis of experience of data (C) is used to infer events, here coding procedures (B). From these inferred events, conjectures are made as to the structures (A) that may have given rise to them. Here Banfield's definition of structure as '*persistent relations between individuals and groups*' has been extended to Eco's notion of deontic institutional codes. Structures are here termed as the matrix of deontic institutional codes to which the students are oriented as set against the institutional code by which the pedagogic materials have been addressed. The aim is to identify changes in the '*artistic system*' of the designed materials that are forecast to make interpretive dilemmas more likely in a given group of students.

11.2.4 The logic by which variables are connected to events and structures

Figure 32, below, combines Bhaskar's (1978) ontological domains (left) and Brand's (1994) pacing layers (right) to explain the logic by which variables at the level of *experience* have been connected to *events* and *structures*. The schematic also draws on a key principle that was applied in the formulation of the domain theory- Goffman's (1997) notion of '*focused gatherings*' (see 6.4.4).

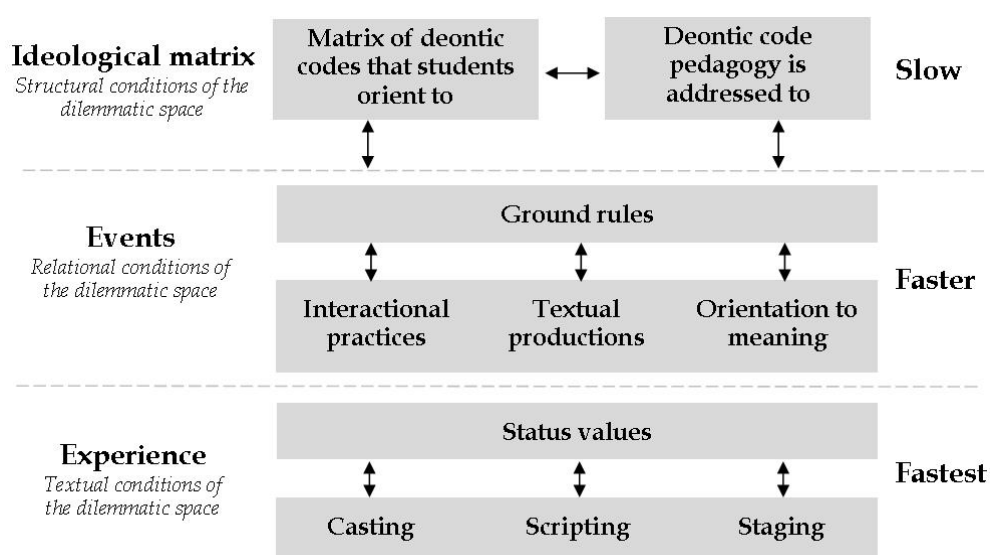


Figure 32 Connection between variables, events and structures in a micro-ecology

Seen as focused gatherings, classroom micro-ecologies are inherently unstable. Joint attention is temporarily focused on shared object of interest and then it dissipates. The make-up of these gatherings is not continuous but fluctuates and individuals within a group are liable to adjust the footing of

their participation as events unfold. This instability causes strain and Cartesian anxiety in the naïve reader unless it is stabilised in some way. This effort at stabilisation is represented by *ground rules* for the management of engrossment that correspond to the dominant deontic code in the *ideological matrix*. These rules serve as a temporary means to stabilise events (*interactional practices; textual productions; orientation to meaning*) and preserve the illusion that the micro-ecology is coherent and law-governed.

Ground rules and events in the domain of the actual are realised through speech, gestures and so forth that constitute the *textual conditions* of the dilemmatic space. Goffman (1997) uses the metaphor of theatrical performance to describe the way people coordinate their participation through these texts. So, for example, the social space is conceived in terms of two positions which actors occupy: 'front stages' (for those acting 'in character') and back stages (for deviants acting out of character). The performance that ensues on these stages is an imaginative world conjured as a presentation to self and others of the world as it should be. Geertz (1993) used this metaphor in his analysis of Balinese cockfights. He described the fights as a form of performance, acted out by cockerels, through which people could read and understand their own position in the world.

it is a Balinese reading of Balinese experience, a story they tell themselves about themselves.....to put the matter this way... is to shift the analysis of cultural forms from an endeavour parallel to deciphering a code...to one parallel with penetrating a literary text (Ibid, 448-9)

Performances, Geertz suggests, are displays of the *status values* that are attached to specific experiences- the handling of the birds, eye contact etc. His suggestion that analysis in ethnography is akin to acting as a literary critic is an attractive analogy given the context of this thesis, namely students' interpretation of fiction. The three variables- *casting, characterisation and staging*- offer a means by which one can interpret the stories students tell themselves about the world of reading and their place in it. It is through understanding the recurring themes of these stories that the designer can forecast the changes in coding procedures that a particular design variant may cause.

11.2.5 Definition of variables

The domain theory is based on the notion that a change in coding orientation is not simply an abstract symbolic process, but is also embodied. Double stimulation posits that mental functioning can be altered through manipulation of concrete objects. Likewise, Peirce's account of abduction stresses the emotional dimension of experimentation, where feelings of frustration, surprise and humour signal the fixation of a new and possibly deviant belief to others. It is for these reasons that the definitions for the variables used in the analysis have been informed by the principle of *multimodality*. This field of social semiotics argues that cultures develop *modes* (e.g. speech, writing, images, gaze, gesture) from which people construct *semiotic resources* (actions, materials, artefacts) that do communicational work (van Leeuwen 2005). It is through analysis of the ensembles of semiotic resources used in a setting that researchers can reach an understanding of how different groups design their interactional contexts. It is the emphasis on meaning making as a design process conducted across multiple modes that was the primary influence in the determining of the variables for analysis in this thesis.

This is a powerful way of enabling people to see how a reality comes to be represented and offering the potential to imagine it differently and to redesign it.

(Jewitt 2009, p.23)

If one takes Goffman's metaphor of theatrical performance as an overarching principle, the students in a micro-ecology can be seen as dramatists who stage, script and perform a play by which they narrate the meaning of the designed pedagogy to themselves. Watching this performance from a distance, a researcher might infer how this performance was staged through analysis of three variables. In each case the word 'text' refers to the combination of semiotic resources by which an actor communicates his/her intentions at a given time:

- *Casting*- These texts concern the allocation of roles to actors and the relative status of these roles. 'Role' may be defined in terms of performances that are expected or prohibited. High role status confers freedom to define the role of self and others. This authority may be justified through claims to traditions, superior expertise, social status or physical strength.
- *Scripting*- Texts concerning the cohesion of the performance through which the meaning of the pedagogy is being realised. Cohesion of the performance may be reinforced through statements and instructions, it may be weakened through challenges or jokes, or repaired through explanation and justification.
- *Staging*- These are texts concerning the selection and arrangements of actors, actions, and artefacts that are active in a performance at a given time. This includes eye contact with 'key players', manipulation of important 'props' and reference to background 'scenery' such as relevant previous experience.

11.3 Next steps

The final chapter of this section sets out the methodological procedure for conduct of the prototyping phase that accrues from the above argumentative grammar.

Chapter 12 Procedure for execution of rapid prototyping phase

The procedure for collection, presentation and analysis of prototyping data is adapted from Bezemer and Jewitt's (2010) four step process of social semiotic research which is summarised below in Figure 33.

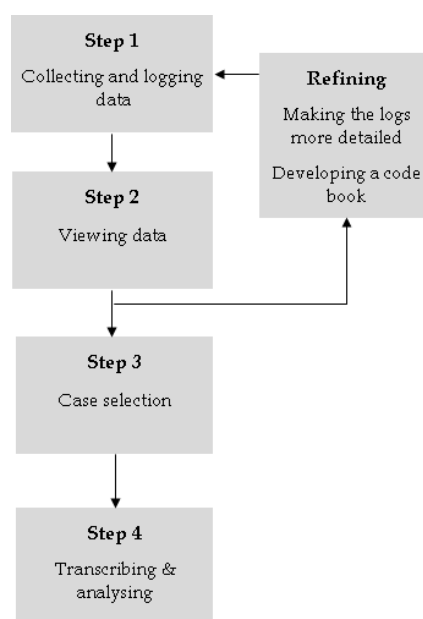


Figure 33 Four step social semiotic method based on Bezemer and Jewitt (2010)

12.1 Step One: Collecting data

12.1.1 Video recordings of student activity

Video is a research method, unique perhaps in its ability to capture dynamic, non-verbal dimensions of social interaction (Kress 2011). To this end, a wooden stand was developed (Figure 34) onto which a small hand held camera could be mounted. These stands allowed shots to be taken from a greater height than commercially available table top tripods whilst being less intrusive than floor mounted variants. The receptacle for the camera was made from an old audio cassette cover. This feature allowed students to quickly remove the camera if they wanted to use it in a hand held mode.



Figure 34 Hand-made camera mount for video recording

Video data lend the illusion that reality is being represented in its entirety but are, in fact, partial records of events. Video does not capture events that occur off camera and it excludes events that precede and follow the recorded episode (Plowman & Stephen 2008). In addition, video data tend not to capture more 'distal' aspects of context of the sort traditionally captured in ethnographic field notes (Simco & Warin 1997). This critique is particularly important considering difficulties in delimiting the boundaries of a case (Barab & Squire 2004). For example, an interpretive dilemma may *seem* to begin and end at certain times on a recording, thus encouraging the notion that they can be easily identified and counted. However, a central premise of dilemmas, the unit of analysis for the study, is that they are manifestations of tensions that are always present (Honig 1996). This begs the question as to whether each recorded episode is a separate self-contained phenomenon or simply the same issue surfacing time after time. Data from multiple ethnographic methods helps to clarify such issues. Hence, video data from the prototyping study has been combined with other complementary methods of data collection.

12.1.2 Standardised tests (Appendix B)

Students were given tests from the York Assessment of Reading for Comprehension (YARC) battery for secondary age pupils (GL Assessment 2010) before commencement of the sessions. Audio recordings of these tests, which were administered by teachers on a one to one basis, allowed the research team to discuss the nature of the students' reading ability prior to and during the intervention. The recordings provided information on:

- The types of errors that different students made when reading
- The information students tended to prioritise, including; *visual* (initial letters, common word endings, high frequency words); *syntactic* (monitoring grammatical sense); *meaning* (establishing a coherent understanding of content)
- Their strategies for answering comprehension questions.
- Comparison of performance with narrative and non-fiction texts
- The length and difficulty of texts to be used in the designed intervention.

The aim in collecting these data was to contextualise subsequent observations in the classroom. In particular they allowed the research team to compare the working methods of students in isolation with their methods when collaborating with peers. Contrasts between test performances and those observed in the classroom allowed us to judge the contrast in moral principles and ground rules operating in each context. In other words, the observations of students under test conditions suggested how they interpret 'model reading' from a teachers point of view. Classroom observations provided data on how this 'Model reader' adapts when acting in more conflicted naturalistic settings. Perhaps most useful in this respect were the audio recorded running records that were taken, an example of which is shown below in Figure 35.

Bees

Does the sight of a bumble bee fill you with dread? It shouldn't: although larger, it is less aggressive than the honey bee and will only attack if threatened. Also, unlike honey bees, bumble bees never form an angry swarm because their nests are small.

After winter hibernation the queen bee constructs a nest in an old mouse hole or leaf litter or, sometimes, under a shed or large stone. Subsequently, she lays the eggs from which female worker bees develop. While the worker bees collect nectar, the queen continues egg laying. From those eggs laid in late summer, male drones and queen bees develop – the drones' sole purpose in life being to mate with the young queens, thus ensuring the survival of the species.

Come the first frosts, the old queen, worker bees and drones die, leaving the young queens to hibernate and await the warmth of spring.

We rely on the bumble bee to pollinate our plants, but with buildings replacing their habitats and pesticides poisoning their food source, man is the greatest threat to their species.

Figure 35 Running record example (GL Assessment 2010)

12.1.3 Still photos of artefacts made by the students (Appendix D)

The students were asked to construct concrete representations of the texts they read and to use these as the basis of a story retell. Again, this method performed several functions:

- It provided a means for the students to symbolise their interpretation of a text in ways that went beyond the printed content. In the language of Eco's (1979) Model reader, construction of models or images provided data on students' propensity to create their own 'possible worlds' over and above the facts as they appear in print.
- Collaborative construction activities provide opportunities to observe the coding procedures of a given group under more weakly framed conditions. These informal 'making' activities provide a contrast with the more test-like aspects of the designed pedagogy and may yield a more nuanced understanding of the conflicting ground rules being applied to the situation.



This is how to feed baby cows. You put some milk on your fingers and then you give it to the cows. They lick it off your finger. The farmer tries to get us to go on long walks to tire us out but that is unsuccessful. We wake up the cockerel instead of the other way round!

Figure 36 Story reconstruction with commentary

12.1.4 Field notes

Given the potential for video recording to elicit unnatural ways of interacting, a decision was made not to record the initial phase of each lesson with the students. Typically lasting around 10-15 minutes, this period was given over to showing clips of video to students taken in the previous session and getting their response as to the effect the intervention was having and what they felt the implications of this were. Field notes were then made immediately following these discussions, whilst the students were setting up the materials and prior to commencing work. These were then added to following the conclusion of each session. Teachers also took notes and referred to them in meetings.

12.1.5 Recordings of joint review meetings (Appendix H)

Weekly review meetings were held involving the team of teachers, the Assistant Head Teacher who was the lead staff member for the project, and volunteers drawn from the participating students. These meetings were an opportunity for the staff to discuss the compatibility of the intervention with provision more widely across the school, and argue for future adaptations that could be made on this basis. The student representatives were able to talk about compatibility issues from their own perspective- for example, how the

procedures in the intervention strengthened or clashed with social relations between and amongst the groups. There was no prior itinerary for these meetings. Instead a film clip was used as a starting point for an open discussion that was audio recorded.

12.1.6 Mediated group interviews (Appendix H)

At the conclusion of the prototyping phase, the students were interviewed as to their perception of the designed intervention materials. These interviews were conducted in the classroom in conditions that approximated those experienced during the intervention. The intention was to capture views in a way that was true to the coding procedures the students had been working to in the sessions, rather than collect comments in a more formal test-like interview context.

To this end the interviews were mediated by a diamond ranking activity (Woolner et al 2008). Each group was given two sets of nine cards. One set reflected the theme '*Things that kept me coming* [to the sessions]', the other '*Things that put me off coming*'. Some of the cards were marked with comments gleaned from the video recordings, field notes and joint meetings, others were blank thus allowing students to construct their own responses. The students were asked to arrange nine cards in each set into a diamond shape that represented their perceptions of the intervention, as shown in Figure 37. In some cases this activity was supplemented by student generated artefacts, e.g. images or models, again reflecting the types of tasks the students had been given in the course of the intervention.

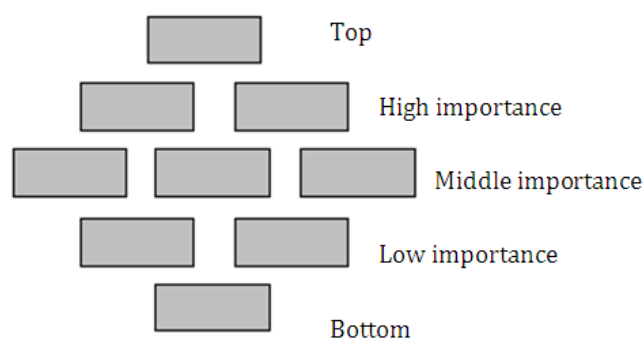


Figure 37 Diamond ranking activity used to mediate student interviews

12.2 Step One (continued): Logging video data

Video files were viewed after each session and a very basic log was kept that bookmarked four key phases in each session:

- *Reading*- recordings of pupils reading aloud from the provided texts.
- *Solving*- student attempts to solve the dilemmas designed into the materials. Cases for micro analysis were sampled from these data.
- *Making*- Concrete reconstruction of the narrative text through making drawings or models.
- *Retell*- Using drawings or models as the basis for an oral reconstruction of the narrative.

The log also contained initial analytical thoughts and incorporated field notes that were made at the time.

12.3 Step Two: Viewing data

MacLure et al 2010 make the point that viewing data is, in itself, a selective process whereby data are filtered by our sensory perceptions.

The supposedly 'naturalistic' video recordings that we had been making in classrooms seemed to hold little power to interrupt our own received readings of children, teachers and classrooms. (Ibid, p.544)

Hence Bezemer & Jewitt's recommendation that video should be viewed in a variety of modes (sound off, sound only, fast forward etc.) was applied as a means to mitigate these effects. Separating audio and video data contained in the same recording allows for triangulation between these modes and can bring important phenomena to perception.

Interesting triangulation can be conducted by comparing video records to audio records. Comparison of the solely verbal records with the combined verbal and nonverbal record can reveal valuable information. Conversely, the overwhelmingly large number of visual references available in the videotext can feed into the researcher's image bank, tending to prevent him/her from isolating specific behavior. (Rosenstein & Israel 2002, p.26)

These repeated viewings gave rise to two outputs. First, they allowed the basic initial video logs to be developed into detailed narratives of each session, as is required of retrospective analysis in design-based research. Recordings

were viewed alongside field notes, minutes of meetings and interview transcripts in order to construct these representations, an example of which is shown below (Figure 38).


Wk 4 Day 1 Grp A		Book marks: Read (0.00-2.23): Make (4.00-18.26):	Solve (2.26-3.53): Retell (18.34-19.43)											
R E A D I N G	<p>Notes</p> <p>Betty reads at speed, with the result that she makes frequent simple errors- 'take us' instead of 'take with us' and 'It' instead of 'I'. She stumbles after these errors because her reading fails to make sense grammatically. Instead of fixing these errors she rushes on. Kim and Fay are following the text. Jill ignores the text and arranges the task materials (A). No one interrupts.</p> <p>Both Jill and Kim read very quickly. Jill's reading is accurate but again she fails to read full stops and question marks. This means she loses sense and has to stop and reread sections to regain meaning. This breaks up the reading and makes it hard to follow.</p> <p>Kim makes several errors that she does not correct- <i>lights</i> for <i>light</i>; <i>it</i> for <i>what</i>. Like Jill, this means that she has to stop and reread sections and struggles to maintain the sense of what she is reading.</p> <p>Fay's reading, by comparison, is leisurely and shows good expression. She self corrects a simple error, showing that she prioritises meaning. She quickly works out 'straggly'.</p> <p>Betty and Kim are chewing gum.</p>	<p style="text-align: center;">The Improbable Cat (5)</p> <p>Later that week we were given a litter to take home from school. It was about the summer camp and explained all the things that we would need to take with us. I was pessimistic about being allowed to go on the trip, but decided to ask anyway. I showed dad the list and asked if I could have some money for a torch. Dad looked really wild. His hair was all over the place and I thought for a minute that he was going to yell at me. Instead he gave me twenty pounds!</p> <p>I couldn't sleep that night for worrying about all the things that had happened since the cat had shown up. I wasn't able to see how I could stop the cat from taking over my family. I could try going to the police or telling the teachers at school but who would believe me? The cat was growing bigger everyday, but there is nothing sinister about a family cat with weight problems.</p> <p>From downstairs I could hear the sound of canned laughter- from the sound of things they were all downstairs in the living room watching a game show on TV. I could imagine the scene. There would be no light on, just a candle or two and the glow of the TV screen. The curtains would be closed and they'd all be gathered around the cat stroking it in the darkness. Sometimes even I had trouble believing what was going on.</p> <p>I looked in on Luke who was asleep in the room next door. He was okay so I went back to bed with a yawn. Outside the shadows were gathering and warm lights glowed in the windows of the houses. Beside me, Billy stirred and a soft growl came from his throat as his paws twitched. I ran my hand through the straggly fur and his back and rubbed his ears.</p> <p>Good old Billy....He believes me.</p>												
	<table border="1"> <thead> <tr> <th colspan="2">Text reading</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Betty (W11.09/F16.00/NF16.00)</td> </tr> <tr> <td>2</td> <td>Jill (W11.00/F12.00/NF8.06)</td> </tr> <tr> <td>3</td> <td>Kim (W12.06/F10.08/NF9.05)</td> </tr> <tr> <td>4</td> <td>Fay (W10.06/F9.08/NF13.02)</td> </tr> <tr> <td colspan="2">Red: Error Blue: corrected error</td> </tr> </tbody> </table>		Text reading		1	Betty (W11.09/F16.00/NF16.00)	2	Jill (W11.00/F12.00/NF8.06)	3	Kim (W12.06/F10.08/NF9.05)	4	Fay (W10.06/F9.08/NF13.02)	Red: Error Blue: corrected error	
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3	Kim (W12.06/F10.08/NF9.05)													
4	Fay (W10.06/F9.08/NF13.02)													
Red: Error Blue: corrected error														
														
<p>1</p> <p>2</p> <p>3</p> <p>4</p>														
<p>1</p> <p>2</p> <p>3</p> <p>4</p>														

Figure 38 Example of expanded video log (see Appendix D)

These expanded logs provide a 'play by play' account of the intervention as it evolves over a period of time. They provide the broader narrative structure within which the transcripts used for micro analysis are positioned.

Play-by-play analyses are particularly effective at showing how the sequentially developing context relates to what happens next. When supported by rich transcripts, these kinds of analyses are also particularly good at demonstrating how multiple actions and people collectively produce phenomena. (Derry et al 2002, p.22)

Second a code book for macro-coding of the data was developed, underpinned by a priori theoretical commitments (Derry et al 2010). These comprised two principles drawn from the domain theory:

- The students' orientations to meaning, coded as restricted (closed text) or elaborated (open text);
- Comparing the dilemmas enacted in their textual productions, coded as dilemmas intended by the designer, or unintended.

The final format of this code book is shown below in Figure 39.

Focusing (F)	Target word is located in the text and read aloud.
Self-correction (SC)	The group establish the correct reading of a target word as it appears in the text following an error.
Clarification (CL)	Target word is read aloud in order to resolve doubts as to its pronunciation. If incorrect the error is shown above the target word- <i>e.g. error/target word on card.</i>

a) Coding of interaction in terms of restricted or elaborated orientations

Management of students' dilemma		All proposals are unintended candidates	Remaining unintended candidates. All intended candidates. Correct candidate.
		Both unintended and intended candidates but not the correct candidate	Remaining unintended and intended candidates. Correct candidate.
		Both unintended and correct candidates proposed. Unintended candidate selected.	Remaining unintended and all intended candidates.
	*	Both unintended and correct candidates proposed. Correct candidate selected.	Remaining unintended and all intended candidates.

b) Colour coding of episodes in terms of difference between the dilemmas intended by the researcher and those perceived by the students.

Figure 39 Code book excerpts showing coding of talk and coding of perception of dilemmas (see Appendix E)

12.4 Step Three: Case selection

Video may be a selective representation of reality but, nonetheless, Simco & Warin (1997) suggest that it is impractical to try to comprehensively report even a minute of such data. Instead, studies that use recordings of interaction as data need to address the issue of how cases will be selected for transcription and analysis. Lefstein and Snell (2011) employ a two stage approach to analysis

whereby a quantitative method of case selection precedes micro-ethnographic analysis of selected episodes. In their study, coding categories derived from an a priori theory of dialogic teaching were used to quantify the frequency of different types of interaction across the corpus. In this thesis, episodes where the students were solving words were coded according to the aforementioned categories in two stages. First, a synopsis was made of each 'solving' episode, as shown below in Figure 40.

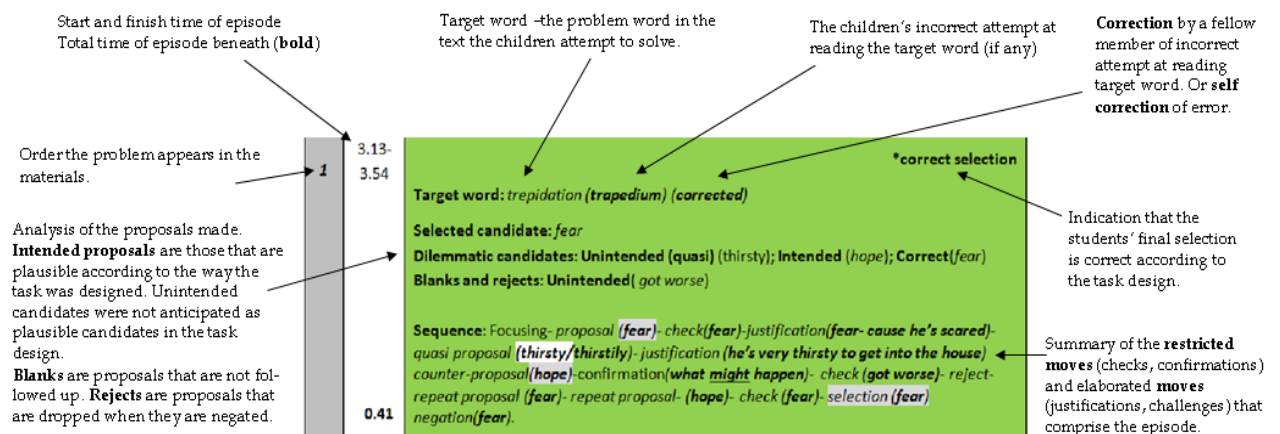


Figure 40 Format for synopsis of 'solving' episodes (see Appendix E)

These synopses summarise the sequence of turns observed using the codes developed for the description of interaction set out in the code book. A representation of the turns involved in each synopsis was then derived from these synopses, as shown below in Figure 41.

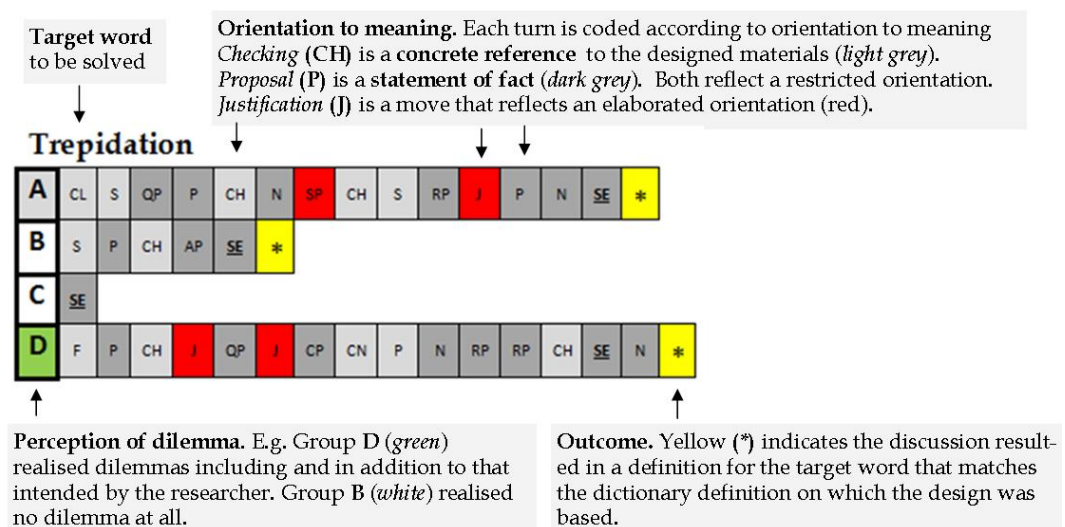


Figure 41 Summary of solving episodes used for case selection (see Appendix F)

These summaries allowed case selection to be based on a visual analysis of key theoretical constructs. Although incapable of eliminating bias from the analysis, these efforts at macro-coding are an attempt to make transparent the link between the sampling process, the research question and theoretical framework driving the study (Bezemer & Jewitt 2010). Snell (2011) argues that using a priori criteria for the selection of cases helps to reduce the probability that 'interesting' episodes have been trawled from the recordings. Conversely the subsequent micro-analysis, combined with data from other methods such as field notes and interviews, goes some way to defending the analysis against the critique of reductionism. Derry et al 2002 argue that combining a paradigmatic approach (macro-coding) with a narrative approach (transcripts and video logs) allows the reader to become both '*tree wise*' and '*forest wise*'.

12.5 Step Four: Transcribing sampled cases

The process of reduction and representation of data through transcription should be informed by the theoretical perspective that guides a study (Davidson 2010, p.116)

Commenting on methods in conversation analysis, Davidson argues that transcription is necessarily an analytic rather than mechanical process. Impressions are formed before and during the fieldwork with the result that' *the reporting skews the phenomenological experience to suit the multimodal ethnographer's biography and research aims*' (Flewitt 2011, p.308). In light of this, Plowman & Stephen (2008) argue that researchers need to address two questions relating to transcription:

What is selected for transcription?

The decision as to what to include in the transcripts, and therefore what to leave out, is largely dictated by the theoretical construct under study (Bezemer & Mavers 2011). In this case, the object of study is a social semiotic learning ecology of the type outlined by Lemke (1997). This system is conceived of as comprising concrete phenomena (actions, events, artefacts) that are interpreted through signs and symbols. Hence the following semiotic resources are coded in the transcripts, following van Leeuwen (2005, p.93):

Physiological resources

- *Vocal*- e.g. speech and non-verbal utterances such as sighs etc.
- *Physical*- e.g. facial expressions, gestures, posture.

Technical resources

- *Artefactual*- e.g. pointing to, handling, manipulating or creating concrete objects including printed materials, visual images and implements.

How should this data be represented in the transcript?

The formatting of transcripts of recorded data is a non-trivial decision. This is because segregating synchronous dimensions of interaction (aural, gestural, artefactual) into separate categories is to turn a '*temporally integral process*' into '*an a-temporal analytic substitute*' (Kress 2011, p254). In other words, the more sophisticated a transcript becomes the harder it is to comprehend as a record of how people in a real situation interacted.

Bezemer and Mavers (2011) discuss the role of salience in mitigating this problem. Researchers can assist the intended readers of their transcripts by making a key 'anchor mode' more prominent in the presentation of data. In this case the professional lens through which the data is intended to be viewed is that of educational design research. This field of study privileges narrative as the primary means by which the performance of a design can be retrospectively analysed (Cobb et al 2003). In light of this, vocal resources, including speech, serves as the anchor mode and is given prominence in the middle column of the transcript matrix. The physical actions that students combine with these utterances are entered in the left hand column, again in an effort to signify their relative importance to the reader. Both, together, represent the dimensions of the students' texts that are physiological in origin. Finally, the right hand column is reserved for technical resources including, but not limited to, the designed resources provided by the researcher. The centre column codes how the transcripts correspond to the episode summaries used for case selection (e.g. Ali's first turn in the example below is coded F (focusing)). The header and

left margin are coloured according to how the dilemma was perceived (*white & grey*= no dilemma; *red, orange and yellow*= students' dilemma; *green, blue & purple*= teacher's dilemma). Grey shading of empty cells is used to draw the eye to concentrations of activity in each column, as shown below in Figure 42.

Time		Physical		Vocal			Artefactual			
1	5:28			Ali	F	What's the next word? (1.0) Squall	All	Look at text		
							Ali	Looks across at word cards		
2	5:31			Rob		Aye=				
3	5:32			Sam		=What does [that mean?] (1.0) Squ::ll !	Sam	Looks at cards		
4	5:33			Rob	CL	[Dunno] Squall (1.0)				
5	5:35	Sam	Looks off camera	Ali	S	By the time we made it home again the rain had started to come down heav (0.5) <u>very</u> heavily. A sudden (4.0)	Ali Rest	Reading from text Looking at Ali's copy of the text, glancing at cards		
6	5:45					A sudden storm! (0.5)	Ali	Looks at word cards		

Figure 42 Example of transcription layout (see Appendix G)

12.6 Step Four (continued): Analysing data

Analysis of the transcripts provides an etic perspective on how people in a micro-ecology coordinate their activities. By contrast, the emic perspective of ethnography allows 'deep if fragmentary insights into participants' lives' (Flewitt 2011, p.296). The 'analytic moment' is a matter of weaving together these etic and emic perspectives in a way that is meaningful and convincing for the reader (Kress 2011). It is in this sense that transcripts and ethnographic data combine to produce the narratives that characterise retrospective analysis in educational design research (Shavelson et al 2003).

12.7 Ethics

12.7.1 Meeting the BERA guidelines

Table 21, below, summarises how the requirements of the British Education Research Association code of ethics (BERA 2011) were addressed. Most of the comments relate to the information sheets and consent forms in Appendix A.

Voluntary Informed Consent	Different versions of the information sheet were produced for a) school senior management and staff (i.e. gatekeepers), b) students and c) carers. These sheets sought to communicate the research aims, process, duration and the implications of taking part in a way that was accessible to each group.
Openness	The information sheets made it clear that the sessions would be recorded. No attempt was made at covert filming. Students themselves, in their role as researchers, were given responsibility for positioning the cameras and deciding when they should be turned on and off.
Right to Withdraw	The information sheets stated that consent to participate could be withdrawn at any stage without detriment. This freedom extended to the filming of the sessions. Students were able to stop the camera and delete recordings that they felt exceeded the bounds of their original formal consent.
Children, Vulnerable Young People	A key legal requirement is the responsibility of researchers to report issues relating to child protection or safeguarding to the appropriate member of staff in the school. Hence, it was made clear in the information sheets that recordings could be viewed by any teacher at the school as well as the university based research team.
Incentives	No incentives were offered to the school or the students by the researcher. However, the teachers who formed the school based research team wanted to reward students with cookies and juice at the conclusion of each week. This was proposed as a means to compensate students for missing a popular cookery lesson and also a means of getting the student researchers to bond.
Detriment	Unexpected detriment to participants took the form of verbal and physical attacks that occurred within the student groups. Given the heavy presence of teacher observers during the sessions, most of these were detected and stopped at source. Where this was not the case, recordings were shown to staff so that action could be taken in line with school behaviour policy. In the case of racially abusive comments, sexual language or references to drug use, recordings were directly shared with the staff member responsible for safeguarding and/or the Assistant Head teacher. Contact details of the project supervisor were provided in the event that participants wished to lodge a complaint against the researcher.
Privacy	The information sheets informed participants of measures taken to protect their privacy and prevent identification of individuals or educational institution. These include storage of video files on secure drives or in encrypted form. Subsequent use of these data in the thesis involved use of pseudonyms, the blocking out of facial features and removal of uniform badges and trim from still images.
Disclosure	As mentioned above, a conscious effort was made to ensure that students were always conscious they were being filmed and also made aware that teachers at the school would be shown these recordings. Although the information sheets do not refer to violence or drug taking per se, no commitment was made to withhold video from staff on this basis.

Table 21 Meeting the requirements for ethical conduct set out in BERA (2011)

12.7.2 *Ethical dilemmas and trade offs*

In their discussion of ethics in educational research, Stutchbury & Fox (2009) argue against treating ethical codes as a checklist against which the quality of research decisions can be reliably gauged. They claim that research ethics are inherently dilemmatic- that meeting one standard almost inevitably involves compromising another. The best one can hope for is to be consciously aware of these tensions when planning and executing a study.

Stutchbury and Fox's analysis identifies four ethical dimensions across which such dilemmas may occur:

- *Utilitarian*- trying to produce the greatest good for the largest number of people.
- *Deontological*- judging our actions not according to their consequences but against a clear moral code.
- *Relational*- judging our actions in terms of the effect they have on our relationships with others.
- *Ecological*- judging our actions in terms of what holds true in a particular context.

They make the following comment on the function of this framework

It will not provide answers to dilemmas but will highlight the nature of such dilemmas within a moral framework raising them as something about which a decision needs to be made in order to act ethically (Stutchbury & Fox 2009, p.494).

Tensions within and between these ethical perspectives were encountered when carrying out the fieldwork. For example, a decision was made to allow the teachers at the school to administer the majority of the standardised tests. This gave the staff an opportunity to extend their expertise in literacy assessment and trial new procedures for assessment as set out in in the school development plan. This decision, though serving a utilitarian function, also incurred a utilitarian cost in that the teachers often broke the protocols for administering these tests or omitted some tests due to pressure of time.

Giving responsibility to the students for setting up and operating the video cameras was intended to build respect for them as researchers as well as participants. However, this relational gain was offset by a relational cost. On several occasions the camera was used by students to exclude peers they perceived as being less powerful. A related dilemma concerned students who were seen to use force in the recordings. Given the emphasis in this thesis on the ecological nature of text interpretation, ecological validity was a key concern. Specifically, if students' moral principles and ground rules were to be a subject of study, then the means by which they enforce these rules is an important focus for analysis. Yet to observe such episodes and not intervene is counter to deontological commitments both in the field of research and in the field of teaching practice. The solution taken was to pass these observations on to staff who would then enforce the behaviour policy. Though this involved the suspension of some participants by the school (e.g. Sam, Jim, Barry), this form of sanction was consistent with the wider school ecology in terms of its norms for behaviour and safe conduct.

A related issue concerns personal disclosures made by students that relate to safeguarding issues. On the one occasion that such a disclosure was made (see Appendix D2.23, p.176) a transcript and video clip was taken to the staff member responsible for safeguarding in the school and discussed. Taking such a decision is based on the deontological premise that the child's welfare outweighs all other considerations. This comes at a utilitarian cost, however, in that exclusion of these data as a result of these discussions means only a partial account of events is presented. There is also an ecological cost if the students concerned subsequently police their comments in a way that skews their natural ways of interacting.

Perhaps the most difficult compromise in terms of methods and data collection was that between privacy (deontological consideration) and veracity of data (utilitarian consideration). Blurring facial features is necessary to protect the identity of participants but negates the capturing of expression and

eye gaze in the still images used in the logs and the transcripts. A dilemma was also posed by the utilitarian benefits of a permissive approach to consent (i.e. allowing unrestricted use of data in future studies) and, on the other hand, the type of restrictive consent that would be most readily agreed to by parents and children. Ultimately the need for consent won out over the possible benefits of sharing these data with other researchers working on separate but related projects in the future.

12.7.3 Power relations between researcher and researched

Boundary objects serve as a focus through which individuals can articulate the '*meanings and perspectives of various intersecting worlds*' (Ibid, p.6). Originally conceived by Star and Greisner (1989) as physical artefacts (e.g. diagrams, plans, policies), Akkerman and Bakker (2011) point out that that the term has shifted to encompass shared problem spaces and activities. A distinctive characteristic of these situations is that no one can claim overall ownership of the object. This is important when considering power relations because ethical discourse is more likely when individuals find themselves in situations where their customary norms and heuristics no longer have currency.

There is no controlling authoritative voice. Indeed, authority is subverted and even parodied and the participants struggle to reach an understanding of themselves and others. (Sullivan & McCarthy 2005, p.630)

This calls into question what it is in the design methodology that might serve as a boundary object during the prototyping phase. Although the design framework (materials, principles for use etc.) is an object that operates at the boundary of the researcher's theory and the teachers' practice, it does not start life as an object that is invested in equally by teacher and researcher. At the outset of the inquiry, the design principles that underpin the materials originate almost entirely with the researcher and so give that party power over the researched. The way the design is subsequently enacted by learners, on the other hand, does suggest itself as a candidate boundary object. Enactment, as captured on video or in work samples, is a text that embodies aspects of school and research cultures in a way that is ambiguous and open to interpretation.

This is the case advanced by Johansson & Linde (2005) in advocating video data as a boundary object in their recount of a participatory design project. In their ethnographic study, video of users interacting with prototype designs were seen as ‘sketches’ that captured both the ‘design moves’ of the research team and the norms and routines of the teachers. In view of this, joint discussions of video data were a feature of formal meetings with teachers and also occurred at the beginning of each taught session during prototyping.

12.8 Research questions for rapid prototyping

The overarching question for the Rapid Prototyping phase is: *What is happening when the students use the designed materials?*

This question is broken down into three sub-questions corresponding to the three dimensions of dilemmatic spaces that comprise the argumentative grammar: *Textual conditions* (Q1); *Relational conditions* (Q2) and *Structural conditions* (Q3).

12.8.1 Question 1: How do textual conditions in the dilemmatic space change over time?

Through transcription and micro-analysis of selected episodes, a rich description is developed of the micro-genesis of changes in textual conditions across three phases, shown below in Figure 43.

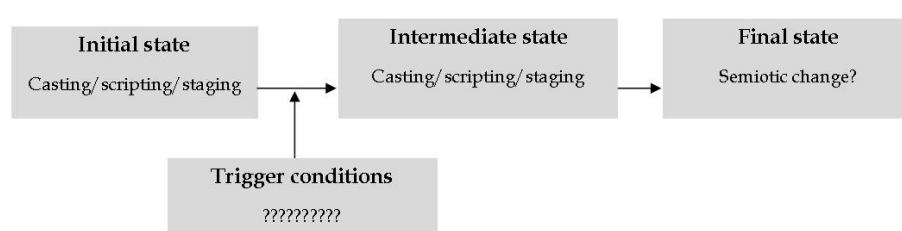


Figure 43 Microgenetic analysis of textual conditions

The final state is conceived in terms of *semiotic change*, defined as

....the discovery and development of new semiotic resources and new ways of using existing semiotic resources. (van Leeuwen 2005, p.26)

This may involve adding new connotations to a word already familiar to a group of students. More significantly, it may be a realisation that words can have multiple meanings each valid according to a different value perspective. In this case it is the meaning of the task not its contents that changes.

12.8.2 Question 2: What relational conditions can be inferred from these texts?

The 'distal' ethnographic data, collected in the form of video logs, meetings, interviews and field notes are used in conjunction with the transcripts to infer the nature of coding procedures they represent. As relational conditions evolve more slowly than textual conditions, it was assumed that different texts may correspond to the same variant of coding procedure.

12.8.3 Question 3: What are the ground rules and institutional codes that regulate these relational conditions?

Inferences are made as to the dominant institutional codes through which events were regulated. Although the designed pedagogy embodies one structure in the complex, it is not assumed that it alone acts as a causal mechanism. Again, given the different pace of change involved, it was envisaged that different coding procedures may correspond to the same structural conditions.

12.8.4 Question 4: What are the theoretical implications of the analysis?

Refinements to the domain theory model the mechanism by which a pedagogy addressed to a dominating institutional code may stimulate a switch from restricted to elaborated coding procedures in a particular group of students.

12.9 Next steps

Section Four reports the rapid prototyping process and the retrospective analysis of data collected.

Section Four Design framework

Summary of Section Four

Aims

To retrospectively analyse students' response to the design framework, where design frameworks

.....describe the characteristics that a design solution should have to achieve a particular set of goals in a particular context. In other words, a design framework represents a collection of coherent design guidelines for a particular class of design.
(Obrenovic 2011, p.57)

Research question

What is happening when students use the designed materials?

Overview of chapters

Chapter 13 Overview of prototype iterations

Chapter 14 Overview of prototyping data and case selection process

Chapter 15 Retrospective analysis of prototyping data from Group A

Chapter 16 Retrospective analysis of prototyping data from Group D

Chapter 13 Overview of prototyping process and design iterations

The prototypes developed at this stage in the design research process are not addressed to a particular code. Instead, they provide a means to explore how and why students engage in aberrant coding, and in so doing avoid, attending to the dilemmas planned into the materials. The data gathered from prototyping are intended to inform refinements to the design that allow the targeting of particular institutional codes during the subsequent field trials.

13.1 Overview

13.1.1 Setting

Prototyping was carried out in a small sized secondary school in the western suburbs of Newcastle Upon Tyne. The campus is positioned behind a large shopping complex located on a dual carriageway and is surrounded by ex-council housing stock. The proportion of students in the care of the local authority or eligible for free school meals was well above the national average for that year. The 2012 inspection report for the school noted that students entering in Year 7 consistently had literacy levels significantly below the national average. Consequently, development of reading attainment in this year group had been prioritised in the school's action plan. The 2012 report also pointed to parental concerns over pupil behaviour, of which I had first-hand experience during my initial visit to the school. The following extract is taken from the notes I made in the car park afterwards.

After discussing the arrangements in the office, the assistant head invited me to have lunch in the canteen. The canteen was clean and well designed, much as you might find at a newly built motorway service station. After some polite banter with the serving staff we sat down and I was then probed over my own teaching career, particularly my time in London. As we talked the bell went and, soon after, a large crowd of students appeared at the counter. At the head of the queue was a smallish boy who ordered first and then struggled to keep his lunch on his tray as he was jostled and pushed. Suddenly there was a crash. One of the older boys had tried to karate kick the tray out of his hands, spilling his soft drink over the floor. At this, a dinner supervisor ordered the older boy to the back of the queue which he did, but only after loud protestations of innocence. The assistant head looked over but made no comment and we continued with our conversation.

13.1.2 Staff involvement

The Assistant Head Teacher (AHT) was concerned that both staff and students should draw benefit from their involvement in any research partnership. The feasibility study would therefore need to demonstrate potential for increasing students' engagement with texts and extending their ability to conceptualise what they read. Should prototyping go ahead, she was also keen that teachers develop capacity and expertise in reading instruction and assessment as a result of their participation. In return for freeing timetable space for prototyping work I was expected to work closely with key members of staff charged with developing this area of provision. Apart from the AHT, my main contacts at the school were as follows.

Teacher A-Year 7 form tutor. (Present at all meetings and taught sessions)

Most of the student participants were drawn from this teacher's class. An experienced teacher, she was in her early fifties and had extensive prior experience of primary and middle school practice. Although a maths specialist by training, she had already initiated a reading programme (RML), based on the principles of guided reading, and was enjoying a good deal of success with this. This could have raised tensions between us, but this was not the case. Her view was that much could be gained from emulating the group based teaching approaches favoured in the feeder primary schools, but that the school's culture had historically been against this. She saw the research initiative as being supportive of this approach, making the following comments at a joint meeting towards the end of the prototyping period (see Appendix H2, p.337)

Teacher A- It has reinforced a lot- I might seem smug at times [laughs]- I could have told them that! Especially about the routines. I've been saying it so much but it doesn't have an impact.

Researcher- It seems to dovetail with the RML reading programme that you run.

Teacher A- Yes, but it's just good primary practice.... Nothing new. You know, that's where I got it from. You have to be really organised and that is what happens in these sessions- it's really well organised. Your materials are there. How do you find your texts? I've been asking for help with texts for years.... I ask again and again but I still haven't got any texts that are suitable for secondary. I'd like to be introduced to different texts.

Teacher B- Head of English. (Present at all meetings and a few taught sessions)

Teacher B was in her mid to late thirties and a trained English specialist. She taught all ages in the school and had direct contact with some of the Year 7 students who participated in the research. Her interests were less targeted at literacy and more at developing children's literary response to what they read. Her position was that reading levels would improve if children could be encouraged to engage with and enjoy narrative instead of treating it as an exercise in comprehension (see below, taken from Appendix H2, p.334)

Teacher B..... So I can try and get them to understand the text by asking questions like 'How does that boy feel?' and if they haven't got an understanding of what is generally going on in the story, you're asking them things that they can't really access which leads you to knowing the answer they have in their head but willing them to say..... It's not a genuine debate.

Teacher C- Data and progress. (Present at all meetings and around half of sessions)

Teacher C was also an experienced staff member in her early fifties, this time working at a strategic level and in close partnership with the AHT. Her role was to monitor the quality of teaching provision and overcome barriers to achieving target levels for attainment and behaviour. With no teaching responsibilities, her time was largely taken up with data analysis and reporting. Her chief preoccupation was the connection between test results and her observations of learning in classrooms. She expressed the following reflections in the same meeting (Appendix H2, p.336)

Teacher C- Sometimes those kinds of tests where you can just press a button aren't always the best.... It depends on how they feel on the day. I mean Sam would come out really badly on a test like that because he couldn't be bothered so he will press any button.

Teacher A- I had a group who were really buoyant when they were taken into the library to do a test and not one of them took it seriously. The results that came back were all over the place.

Researcher- A test is a snapshot but what we're doing here is looking at change over time.

Teacher C- I think it's highlighting some things we're seeing in the classrooms.

13.1.3 Timings

Prototyping was carried out in the 2011-12 academic year and followed the sequence illustrated in Table 22, below.

<i>Initial contact</i>	<i>Feasibility study</i>	<i>Development of materials</i>	<i>Testing of students and RP of formats</i>	<i>RP of content-Cat materials</i>	<i>Debrief</i>
Autumn term 2011		Spring term 2012		Summer term 2012	

Table 22 Sequence of prototyping activities

Initial contact involved two meetings at the school, the second of which involved a short presentation to the whole staff as to the principles, aims and objectives of the research. The *feasibility study* involved three visits to the school, each involving a different group of six students who were brought off timetable. A meeting followed that involved myself and the four staff contacts at which the logistics of a four week prototyping stint in the spring and summer term were discussed. Chief concerns at this stage were arranging informed consent (See Appendix A) and planning the administration of the YARC test battery to students in the spring term. In line with the school's wishes that staff expertise be developed, it was necessary to provide training in carrying out and interpreting running records before staff could then proceed to test the children in the spring term. The test results are summarised in Appendix B along with a transcribed exemplar of Teacher B's conduct of the comprehension test with Roy.

The first two weeks of the rapid *prototyping* phase were given over to refinement of the overall design configuration, specifically the physical appearance of the field of stimuli and the action tool (see 13.4 below). During the following two weeks the format was frozen and 'on the fly' changes made to language content based on direct observation of the students' activities (see 13.5, below). Team meetings were held with staff and students over this period at which changes to the design were proposed and discussed, transcriptions of two such meetings can be found in Appendix H).

The *debrief* involved a presentation of key findings to the whole staff and a follow up meeting with stakeholders to discuss field trials slated for the following summer. By this time, however, the school had been given notice of closure and two of the staff involved in the project had already secured posts

elsewhere and had resigned their posts. A decision to proceed was postponed to the following autumn when it was decided not to continue. Unfortunately the planned reporting key findings to parents on Parents' Day was also shelved. This chapter contains a full account of the feasibility study and an overview of the design iterations that were subsequently produced.

13.2 Feasibility study

Further details of the materials used in the study and data collected can be found in Appendix C2.

13.2.1 Student sample

Three groups of six Year 7 students participated in the feasibility study, selected according to the ease with which they could be withdrawn from timetabled lessons. The Suffolk Reading Test data provided by Teacher C identified groups A and B as comparatively skilful readers and group C as being relatively weak readers. However, on completion of the study activity Group A opted to withhold their consent to participate. Of the two remaining, Group B comprised 4 girls and 2 boys; Group C comprised 3 girls and 3 boys.

	Student	Chron. age	Reading age		Student	Chron. age	Reading age
Group B	A	12.00	12.01	Group C	A	11.07	9.02
	B	11.05	12.07		B	11.01	8.05
	C	12.00	11.01		C	11.08	10.04
	D	11.09	11.09		D	11.03	10.04
	E	11.11	11.03		E	na	na
	F	11.05	13.00		F	9.10	11.05

Table 23 Reading test scores of students participating in feasibility study

13.2.2 Prototype materials used in feasibility study

The designed materials comprised two components based on Vygotsky's double stimulation methodology, the aim being to preserve the combination of linguistic and iconic signs used in the original block experiment.

- *Linguistic*- A narrative text provides the structured stimulus field.
- *Iconic*- A set of fortune lines serve as an action tool by which students can physically work upon the text.

The narrative text covered two sides of A4 paper and was based on a published novel for young adults- *Hatchet* (Paulsen 1996). The adaptation used in the study narrates how a person stranded in the snow by a car crash is able, through a series of experiments, to successfully light a fire and survive. The plot is cumulative in structure- it relates a gradual step-by-step progression from crisis to resolution. The action tool accompanying the text comprised a set of 'Fortune lines' (White & Gunstone, 1992). These diagrams depict a character's changing emotions over the course of a narrative. Four such graphics were provided to students, each potentially depicting the main character's experiences. The intention was that students would need to return to the text and discuss specific events in the story in order to make a reasoned choice from amongst them.

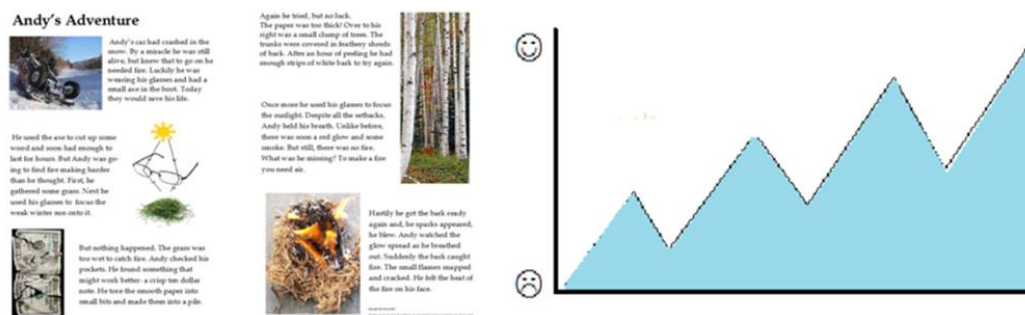








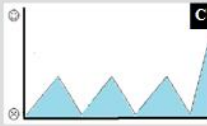



Figure 44 The narrative text (*stimulus 1*) and fortune line showing cumulative plot structure (*stimulus 2*).

Each participant was also given a response sheet (see Figure 45, below). Of the four fortune lines shown, B and D represent the interpretive dilemma that was planned into the activity. Both diagrams reflect the cumulative structure of the narrative and so both are potentially valid choices. In an attempt to encourage articulation of themes that extend beyond the specifics of the story, students were also asked to identify the occupation of the main character. Three of the options (*soldier*, *fireman*, *scientist*) are potentially dilemmatic in that they each correspond to the story's overarching problem solving/survival theme. Of the three, the *scientist* was the designer's intended solution owing to the fact that the narrative consists of a series of *experiments*. The remaining three options (*wrestler*, *clown*, *astronaut*) were included as distractors, offering the possibility of a deviant response to the task.

Who is Andy?

 1 Astronaut	 2 Fireman	 A
 3 Soldier	 4 Wrestler	 B
 5 Clown	 6 Scientist	 C
		 D

Which photo and graph did you pick?

Photo	Graph
-------	-------

Figure 45 Response sheet.

As with all stages in the subsequent prototyping process, the question addressed in the feasibility study was *What is happening?* The aim was to gain an initial impression as to the effect of the design on students' ability to elaborate concepts contained in the text and also the principles and values that underpin these efforts.

13.2.3 Procedure followed during sessions

Participants were first asked to enter a number at the top of the response sheet that indicated their feelings when introduced to the task. The suggested range varied from +10 (*This is something I really like to do*) to -10 (*This is something I really hate to do*). A score of 0 indicated ambivalence to the task.

The narrative was read aloud to the students. Afterwards they were given five minutes to read the text again and individually decide which graph best represented the main character's emotions. Having made a personal choice, the students were next asked to discuss their reasoning with their peers in order to come to a group consensus as to which combination of graph and picture best represented the story's content. These discussions were audio recorded and transcribed for analysis.

13.2.4 Coding of transcripts

In our preliminary discussions, the AHT and Teacher C had shown most interest in the different types of conceptual thinking that may be observed through use of double stimulation methodology. For the purposes of the feasibility study, therefore, each turn in the transcript was coded according to categories taken from Vygotsky's original block experiment (Section 7.3.6). The scheme, shown below in Table 24, includes pre-conceptual codes, *syncretic groupings*, *complexes* and *potential concepts*, that may correspond to a restricted orientation as well as a code for true *scientific concepts* that signal an elaborated orientation. In the course of coding the transcripts the scheme was extended to include *statements* (restricted orientation) and *synthetic concepts* (elaborated).

Level of conceptual reasoning		
	Statement	A theory is presented as a fact without elaboration.
	Syncretic grouping	A new narrative is invented that explains how discrete attributes (words, pictures, points on graph) are related.
	Complex	Discrete attributes (words, pictures, points on graph) are paired to form a theory.
	Potential concept	A theory is expressed whose logic derives from prior experience but is not applied to the narrative text.
	Synthetic concept	A theory is expressed whose logic is applied to discrete aspects of the narrative but not elaborated further or integrated.
	Scientific concept	A theory is elaborated that systematically explains how events across the narrative are interrelated.

Table 24 Code scheme for conceptual reasoning

A code was also developed to describe the social function served by each turn in the transcript, shown below in Table 25. Again, the hope was to identify a switch from restricted procedures, where students assume they share the same interpretation, to elaborated procedures whereby they probe and challenge each other's understanding. *Challenge*, *reasoning* and *humour* were predicted be likely signals of such a shift.

Social function		
A	Affirmation	Agreeing with another's interpretation.
P	Prompting	Providing information to help another's reasoning
C	Challenge	Disagreeing with another's interpretation.
Q	Question	Asking for information or an opinion from others.
R	Reasoning	Offering an explanation or justifying a point of view.
H	Humour	Breaking the tacit rules of the task to make a joke.
F	Friction	Personality clashes not directly related to the task
M	Management	Commenting on the group's approach to the task. Housekeeping.
T	Teacher	Intervention or advice from teacher/ researcher.

Table 25 Coding scheme for social functions

Finally, a code was developed to represent the attention paid to the task materials, Table 26, below.

Attention paid to materials	
-----	Students direct attention to pictures of character types
_____	Students direct attention to fortune line
.....	Students direct attention to copies of the text

Table 26 Coding scheme for attention to task materials

13.2.5 Results: Group C (Weaker readers)

The responses of this group are summarised overleaf in Figure 46. In terms of their motivation to engage with the task, all members of the group appear equally positive. Fortune line choices suggest that four of the six participants have grasped the cumulative structure of the narrative. The subsequent character choices (*fireman, soldier, scientist*) are all drawn from the three conventional types offered. The response sheet suggests that the overall story structure has been identified and that character selection has been informed on this basis.

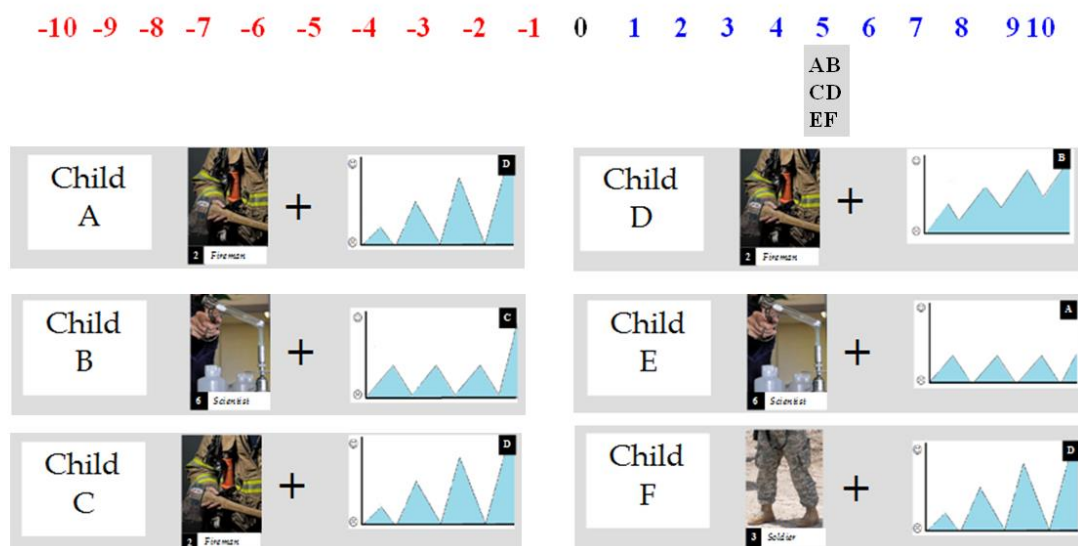


Figure 46 Response sheets of Group C

One might expect nuances between these closely matched personal choices to be the subject of reasoned debate during the final group phase. However the subsequent discussion summarised overleaf (Figure 47), fails to show much evidence of this. Aside from an initial flurry where the students attend first to the character pictures and then the fortune lines, little notice is taken of the provided materials. Indeed, aside from turns 14 and 26, the text itself is not directly referred to at all. Interestingly, both occasions where the text is consulted coincide with incidences of conceptual reasoning. Almost all turns are pre conceptual, suggesting the materials have a negligible effect in stimulating concept formation through dilemma management. Although many questions are asked, they mainly seek factual responses or yes/no answers:

- Turn 33:** *What graph do you think it is?*
- Turn 46:** *Who pu- who thought it was (.) like he could have been a clown?*
- Turn 57:** *What do you think (Name of student)?*
- Turn 87:** *D, in your opinion. What do you think it is?*

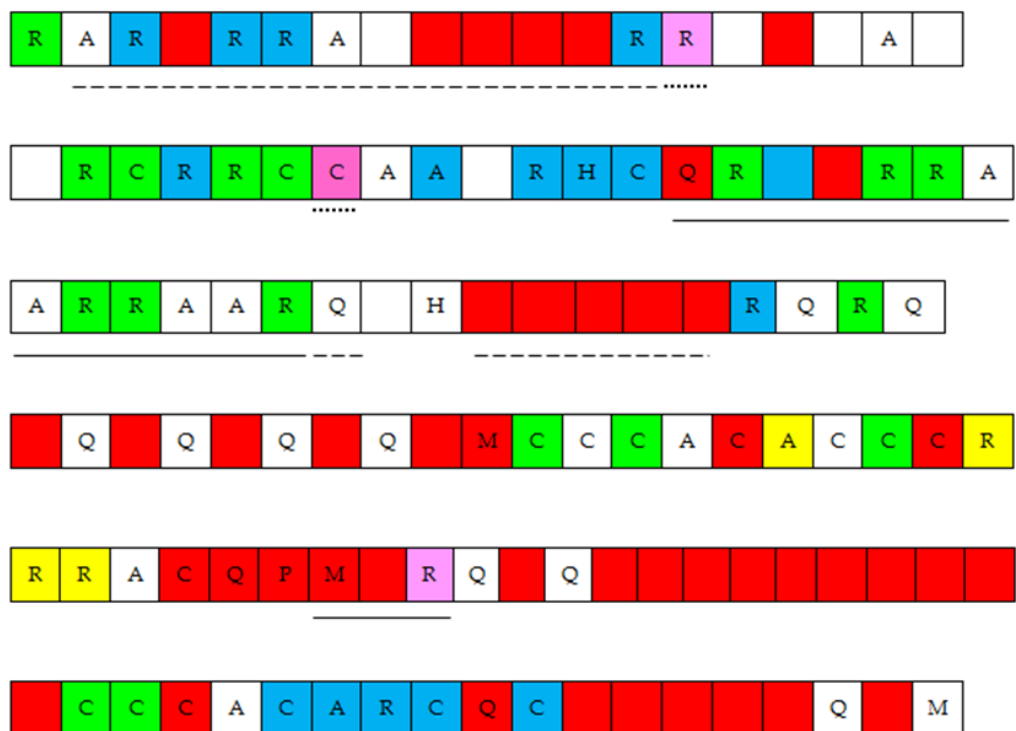


Figure 47 Coded summary of Group C transcript

Excerpts from the transcript are discussed below and are annotated as follows, from left to right: *Number of turn (Coloured according to concept); Student label; Social function: Transcribed speech.*

From the beginning the group set out to clarify conventional choices that, in their view, are sanctioned by the task, and subsequently limit their analysis to these options.

12 D na *At least none of us think that it's a wrestler or a clown.*

These rules are reinforced again part way through the task as a reminder of what is and is not considered relevant.

46 D Q *Who pu- who thought it was (.) like he could have been a clown?*
 47 F na [Name of student]
 48 C na *Heh Heh*

Having first consulted the pictures, the group try to make a selection. The majority of moves in the sequence below are **complexes** and focus on matching nouns taken from the story (*car, axe, glasses*) with one of the depicted character types.

21	C	R	<i>Aye I know but I'm like (name of student) thinking it's a fireman because if you're in the army and being a soldier you're in there like (0.5) you're in there for like and you don't come out in a car.</i>
22	E	C	<i>You wouldn't carry an axe with you in the army. And you don't wear glasses either like scientists.</i>
23	C	R	<i>And fireman's got a axe and know how to make fire and that</i>
24	E	R	<i>Yes and some scientists wear glasses.</i>
25	D	C	<i>I knaa but then so do [firemen.</i>
26	B	C	<i>[Reading] He used his glasses to focus the winter sun onto it. See. How could a fireman know that?</i>
27	E	A	<i>Exactly</i>
28	C	A	<i>A fireman would know that.</i>

At turn 23, student C's *potential concept* connects the character of the fireman to the story theme of making a fire, but makes no reference to the text or the fortune lines in support of this. A character who is well versed in the art of fire lighting would theoretically have no need of experimentation- hence this choice would in theory have been rejected had the materials been consulted. Student B comes close to making this very point at turn 26 where a *synthetic concept* is applied to a single event in the story, but is not elaborated further. No attempt is made to test the theory by extending it to other junctures in the narrative and the point is lost.

Shortly afterwards the group turn their attention to the fortune lines, with similar results. Instead of applying features of the diagrams across the entire plot, the students tend to pair isolated features to a corresponding event in the story- *when he finds; when he crashes;*

37	B	R	<i>No. He goes (?) he goes sad, happy, sad then when he finds..</i>
38	D	R	<i>Cos when he crashes his car he'd be sad</i>
39	B	A	<i>NO (2.0) yeah</i>
40	E	A	<i>Right</i>
41	D	R	<i>It could be D cos if he crashes his car he'll be more like sad</i>
42	C	R	<i>And then when at the end he'd have been happier</i>
43	D	A	<i>Aye</i>
44	C	A	<i>Aye</i>
45	B	R	<i>It could have been C cos when he(0.5) got out of the car he got out and then he finds (?)</i>

Lacking any conceptual purchase on the task, many of the remaining turns take the form of simple statements that are not elaborated in any way.

Although the students have identified the dilemmatic candidates designed into the task, they are unable to elaborate the merits of each in order to resolve the issue.

49	B	na	<i>I think it's scientist</i>
50	D	na	<i>I think it's fireman</i>
51	E	na	<i>Scientist</i>
52	C	na	<i>I think fireman</i>
53	B	na	<i>Scientist</i>

The group try to break the deadlock by taking a vote (turns 57-67) which results in majority for the fireman. However the result is immediately challenged and the circular discussion resumes. With frustration mounting, Student F uses a *syncretic grouping* of *snow* and *axe* to invent a new narrative based on a Christmas theme.

77	F	R	<i>Aye. I know. In case. He might have been going for Christmas. You know. When they're chopping them down since it's snowing</i>
78	D	R	<i>But then again he could have taken the axe because he knew that he could of crashed.</i>
79	F	R	<i>It was snowing. It was snowing so I think that he went to pick out a Christmas tree and he's got his axe just to thingy.</i>
80	D	A	<i>Aye!</i>

With no evidence that the pictures, text and fortune lines were used in combination, it is perhaps not surprising that the group fails to produce a fully formed *scientific concept*. At several junctures in the conversation Student E appears to articulate a potential concept consistent with the true concept designed into the materials.

6	E	R	<i>I think scientist because of the experiments and that.</i>
13	E	R	<i>Just doing loads of experiments to make fire.</i>
30	E	R	<i>Scientists could though. Scientists need to know the experiments for fire and that.</i>

Although appearing to recognise the narrative's central theme, her choice of Graph A at turn 34 suggests that this has not been understood and that, fact, she is articulating a *pseudo concept*.

34	E	R	<i>A, because everything has worked out for him.</i>
----	---	---	--

13.2.6 Results: Group B (Stronger readers)

The response sheets for this group are summarised below in Figure 48. Although child F indicated a positive approach to the task, child A and C were ambivalent, E negative and B and D gave very negative responses. As with Group C, four out of the six students seemed to have selected graphs that match the cumulative nature of the story. However the character choices that arise differ in that three children (C, D and F) selected options intended as distracters.

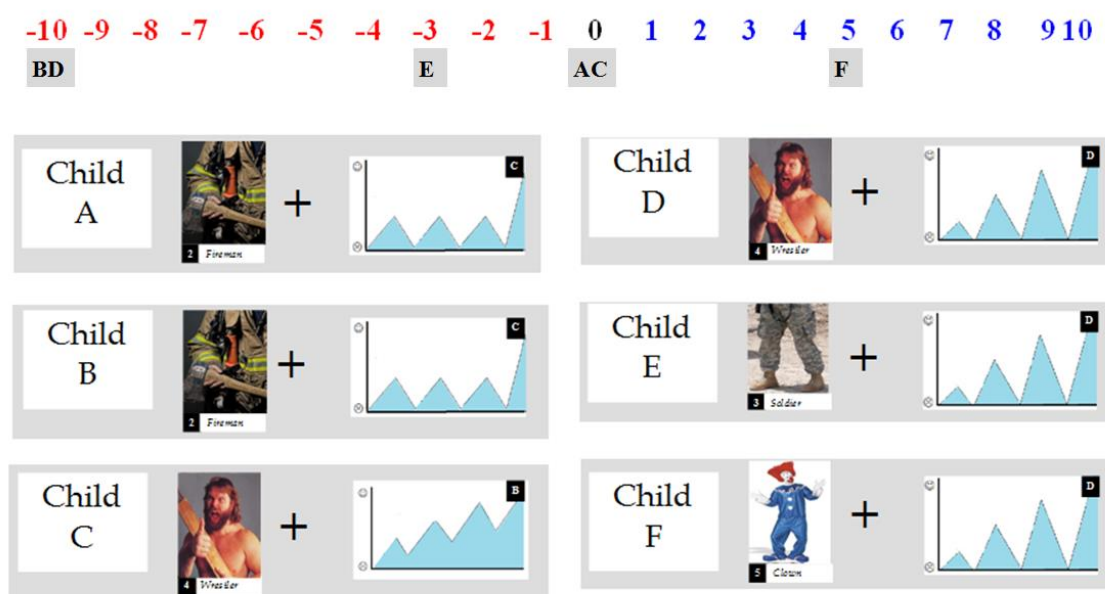


Figure 48 Response sheets of Group B

A summary of the coded transcript is shown below in Figure 49. It suggests that the pattern of engagement with the materials (what little there is of it) is a reversal of that seen in Group C. Rather than an initial flurry at the outset of the discussion, Group B abandon the materials until the final stages of the task. There are no direct references made to passages in the text and, aside from a fleeting reference at turn 6, the fortune lines are only attended to following a prompt from the teacher (T) at the conclusion of the activity.

129	T	<i>You are concentrating on the pictures. What about the graphs? What have you picked?</i>
130	E	<i>Oh, erm D</i>
131	F	<i>I picked D</i>
132	D	<i>D as well</i>
133	C	<i>B</i>

The above sequence suggests that the group are able to perceive the intended dilemmatic choice between Graph B and D, but are not inclined to debate the point. As with Group C, a majority vote is taken as a proxy for making a reasoned decision. This may be because the fortune lines look very similar and so it therefore makes little difference which is finally selected. That the group have the potential to elaborate concepts is suggested by the types of questions asked. In contrast to the many factual questions posed by Group C, the two questions raised here both seek a reasoned response

What were you going to say about it wouldn't be a scientist? (Student A, turn 57)

He would know the same things as the fireman? (Student C, turn 59)

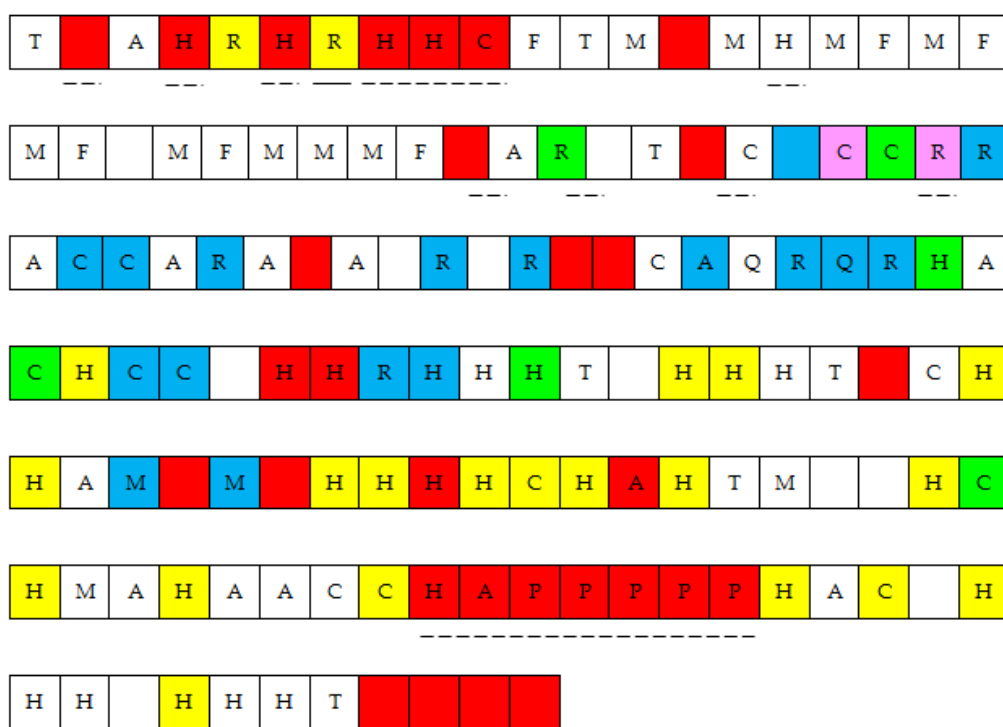


Figure 49 Coded summary of Group B transcript

Many of first thirty turns coded as *Management* (M) involve students questioning and critiquing the materials.

12	C	M	<i>Mine isn't numbered</i>
20	D	M	<i>Mine's 5 - mine's 5B</i>

The humour that accompanies these criticisms is geared to disparaging the task materials and also to disparaging one another. Student B has already defaced his response sheet and this provokes a stream of abuse from Student E.

15	B	H	<i>Sir I was .. I was .. I've been kind of decorating and I've covered it.</i>
16	C	M	<i>Mine says o::::ne A</i>
17	E	F	<i>That's just stupid! Do you know how stupid...</i>
18	A	M	5A
19	E	F	<i>...Do you know how stupid ye are?</i>

When the group finally turn their attention to solving the task, their first move is to discount the fireman as a valid candidate. Their reasoning parallels that of Group C- the process of trial and error described in the narrative is seen as superfluous for someone equipped with that level of expertise. Unlike Group C, however, this theory is applied to multiple aspects of the plot (*the use of glasses; failure to burn the dollar bill*). Students E and C elaborate **synthetic concepts** that are complementary, however neither is able to express both ideas simultaneously in the form of a genuine concept that can then be used to identify the scientist as a valid candidate. This may have transpired had the pair coordinated use of the fortune lines and direct consultation with the text at this juncture.

36	C	na	<i>But the thing is no fireman (..) He would know</i>
37	E	C	<i>He would know how to start- he would know how to start a fire with the glass.</i>
38	D	C	<i>Why's the fireman got an axe?</i>
39	C	R	<i>He would (.) If he was a fireman he would know like you know the dollar that it would be too thick to set on fire.</i>
40	D	R	<i>He would know (.) he would know how to start a fire if he was a fireman.</i>
41	C	A	<i>Mmm.</i>

Statements are less frequent in this transcript and tend to be used to evaluate **potential concepts** rather than to simply express a matter of fact.

49	F	na	<i>Cos like (1.0) soldier like</i>
50	E	R	<i>Cos they won't have much knowledge but they will have some knowledge.</i>
51	F	na	<i>Aye, because a scientist (..) like (0.5) or like</i>
52	E	R	<i>They would know as well</i>
53	C	na	<i>It wouldn't be a scientist either</i>
54	A	na	<i>It could have been a scientist.</i>

There are also fewer instances of **complexes** in the transcript and they again appeared to serve a different purpose than in Group C. In the sequence below, the group struggle to separate the dilemmatic candidates *fireman* and *scientist* owing to the fact that their **potential concepts** are never tested against the text or the fortune lines. Student C creates a complex for humorous effect (turns 60 & 63) in an attempt to break the resulting deadlock. This is in contrast to the approach of Group C, where humorous responses were policed from the outset and most complexes were formed in earnest. Here the joke is recognised as such and ignored.

- | | | | |
|----|---|---|--|
| 57 | A | Q | <i>Hang on. What were you going to say about it wouldn't be a scientist?</i> |
| 58 | D | R | <i>The scientist would know as well</i> |
| 59 | C | Q | <i>He would know the same things as the fireman?</i> |
| 60 | A | R | <i>The scientist would go (..) could be (..) The scientist could be going on like a jou- Like a (1.0) like tourist (.) he could be like a tourist scientist and he could be going to like find stuff (.) so he could be a scientist that's lost track.</i> |
| 61 | C | H | <i>It could be a wrestler. He could be carrying an axe.</i> |
| 62 | D | A | <i>Yeah it could be</i> |
| 63 | E | C | <i>Why would a wrestler carry an axe?</i> |
| 64 | C | H | <i>To kill someone.</i> |
| 65 | F | C | <i>Yeah, but if it was a scientist wouldn't a scientist already know how to start a fire?</i> |
| 66 | C | C | <i>It would be the same with the fireman</i> |

Syncretic groupings, of the type formed by Student C in the above sequence, become more predominant as the transcript enters its final phase. Almost exclusively, these mark attempts at humour geared to violating the parameters of the task. The example, formed in turns 89-96, involves a reformulation of the rule that only one character type can be chosen. This move releases the group from the frustration of having to manage their dilemma and make a choice (Line 87). The resulting counter-narrative the students construct allows them to regain some control over the decision making process.

87	E	M	<i>It could be all them. Like a clown has an entertaining job.</i>
88	D	na	<i>Well it can't really be an astronaut</i>
89	C	H	<i>He's dreaming to be an astronaut, he's training to be a fire fireman and he does wrestling in his spare time and he was a scientist.</i>
90	E	H	<i>And he (..) he used to be a soldier (..) He used to be a scientist soldier in the war.</i>
91	C	H	<i>But now he's a soldier.</i>
92	B	H	<i>And he's got a beaky nose.</i>
93	A	C	<i>Why would a clown turn into a soldier?</i>
94	E	H	<i>No (..) he just does that for entertainment.</i>
95	C	A	<i>Clowns can be soldiers.</i>
96	B	H	<i>A proper red nosed one!</i>

This contrasts with a syncretic grouping by Student E at the very beginning of the transcript. At this early stage, a serious attempt is made to infer data missing from the text needed if an informed choice of fortune line is to be made. In the sequence, below, Student B has defaced one of the pictures and is showing it to her friend as Student E speaks. They both ignore what is said.

4	E	R	<i>Cos it could have bin that he got lost and he (.) he's truing to find the rest of his friends.</i>
5	B	H	<i>(Whisper) The scientist has got a gun.</i>
6	E	R	<i>And if it's graph D then it keeps getting higher and lower and then high and then low and then really high at the end. That may be when he finds his friends and he saves himself.</i>

13.2.7 Conclusions and subsequent decisions

As with all stages in the subsequent prototyping process, the question addressed in the feasibility study was *What is happening?* The aim was to gain an initial impression as to the effect of the design on students' propensity to elaborate concepts contained in the text and also the principles and values that constrain these efforts. Groups B and C both showed an awareness of the dilemmatic choices designed into the materials. Each, however, found ways to avoid managing these decisions that reflected their contrasting dispositions towards the task.

Group C rated themselves as motivated to engage with the task and imposed a code that was *compliant* with the perceived intentions of the designer. The students restricted themselves to the three 'sensible' character

types provided and most were able to intuit the cumulative structure of the story. Their individual response sheets lent the illusion that the dilemmatic choices planned into the task had been recognised and managed, but this was not the case. The group were unable to orchestrate text, fortune lines and character types together, instead referring to each separately. This negated the principle upon which double stimulation operates and so the affordances for dilemma management designed into the materials were not realised. An example of this is the synthetic concept at turn 26, which could have been elaborated into a scientific concept had Student B also made direct reference to the fortune line. In the event, the students' desire to stick to the facts seemed to militate against this and restricted the fortune line to the status of a *technical tool*. The fortune line was used as a means to segment the narrative into key events rather than a vehicle for testing emergent theories that link these events together (e.g. turns 37-45). To compensate, the group employed two forms of *aberrant coding*- voting as a proxy for a reasoned decision and, when this failed, syncretic groupings were constructed in an attempt to make the task tractable.

Group B rated themselves as less motivated to engage with the task and this is reflected in deontic code that was dominant. Group B operated under the principle that everything can and should be open to *challenge*. In the initial stages, much effort was put into identifying flaws in the materials and also in name calling. Once the group turned their attention to the task, challenges were then directed at solutions advanced by members of the group. It was anticipated that this type of interaction would lead to the elaboration of concepts and, to an extent, this was seen to occur. The synthetic concepts constructed by students C and E (turns 37 and 39) were negative in the sense that they aimed to discredit 'fireman' as a valid candidate. However, under these circumstances, only one piece of evidence is needed to disconfirm a candidate, hence there is little motivation for the students to elaborate further or to consider evidence which conflicts with their arguments. Instead of using the fortune lines as an action tool with which to work upon the narrative, elements of the narrative were used as an *auxiliary means* to facilitate students' a

priori theories about different character types. Mounting a positive case in support of a theory would, by contrast, have required integration of evidence into a convincing rationale, possibly mediated by one of the fortune lines.

Perceiving the task as impossible to solve- *It could be all of them* (turn 87)- discredits the logic underpinning the activity and justifies an attack on the game itself. Syncretic groupings of character types and story elements were constructed in the latter stages of the activity in order to ridicule the task and, perhaps, distract from the students' inability to reach a reasoned decision. Ironically, it was this *aberrant coding* that occasioned the most sustained efforts at elaboration. Bouncing ideas off one another involved a complex division of labour where each student acknowledged and built on the ideas of another (e.g. turns 88-96).

Having observed the three sessions comprising the feasibility study, staff expressed surprise at the gulf between the products of the activity and the process by which they were negotiated. 'Good behaviour' can lead to superficially 'correct' student responses that, in fact, derive from consideration of isolated facts and untested theories. Challenge and resistance deriving from 'bad behaviour', on the other hand, can produce deviant answers that demand much in terms of coordination and elaboration of ideas. A point of discussion was the degree to which this aberrant coding was stimulated by the inclusion of distractor choices (*clown, wrestler, astronaut*) in the task materials. This raised the question as to whether provocative options that are obviously wrong could have a role to play in stimulating students' engagement with concepts in narratives. In other words, can the values that underpin poor behaviour be harnessed as a motor for concept development?

A concern expressed by Teacher C was the seeming reluctance of the students to use the tools provided to them, in particular the texts and fortune lines. Although the character pictures were referred to extensively, much of the reasoning observed centred on abstracted elements of the story recalled from memory, isolated physical attributes (e.g. details in the pictures; particular points on the graphs) or personal theories that derived from prior experience.

Most students were able to intuitively select a fortune line showing a cumulative structure without reference to the text, suggesting that the diagrams by-pass rather than stimulate logical reasoning. It was speculated that neglect of the text may have been exacerbated by the practice of reading the text to the students rather than have them do this themselves. It was also noted that the groups were not homogenous in the way they responded to the materials and that efforts were made by some students to keep others in line. On this basis it was mooted that an approach to coding the data be developed that focussed more on the dilemmas activated by the students and the types of social interaction that trigger them. This would allow cases to be selected showing incidences where the materials mediated a violation of the dominant deontic code rather than be subordinated to it.

13.3 Rapid prototyping- setting

A decision was made to proceed from the feasibility study to rapid prototyping over a four week period. This took place in the school's Library and Resource Centre (LRC), shown below in Figure 50.



Figure 50 Picture of LRC taken from the library issue desk, showing workspaces for Group D (foreground) and Group C (background)

The recruitment of students for prototyping was capped at sixteen, this being the maximum Teacher C felt could be supervised at one time. This restriction allowed the four groups formed from this sample to be spread out across the LRC, thus reducing the ambient noise in each recording. A decreased

chance of fights breaking out between the groups was also cited as an advantage.

I think it's a good idea in the area we've got where we've got more space. We've normally got quite a lot of conflict between the students so it would be quite hard in the class. (Teacher A, Appendix H2.1, p.325)

The arrangement of Groups A, B, C & D is shown below in Figure 51. All groups apart from Group B were visible from the librarian's desk and so were open to constant surveillance by at least one staff member. This made Group B's table very desirable in the eyes of some and there were two failed attempts by Group D to take over occupancy of it by force.

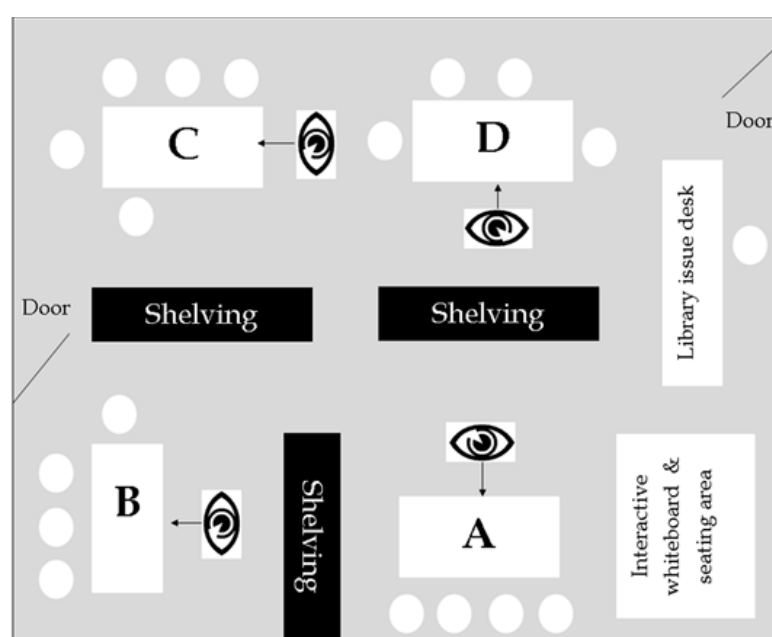


Figure 51 Position and seating arrangement of groups (👁 = camera position)

13.4 Rapid prototyping: Formats (Weeks 1&2)

This phase was given over to gross changes in the format of the materials. Full details of all variants can be found in Appendix C3. Although formats varied, the same activity structure was used across all sessions:

- *Reading*- students take turns in reading sections of the text aloud.
- *Solving*- matching a word or picture to the target word in the text.
- *Retell*- the students give a summary of the main ideas contained in the text, sometimes supported by drawings or diagrams.

13.4.1 Design based on *The Silver Sword* (Serraillier 1956, p.10)

It was early morning when we finally arrived. We were high up near the mountains and a cold wind was blowing through the thin pine trees. It had been a long and uncomfortable journey and we were all very tired. Someone carrying a *sev* appeared at the gates and stopped us. Only those on the list would be let in. At that moment it began to snow.

Once we had been allowed through, I had a better chance to see what kind of place this was. There was a small road through the middle with a row of buildings on either side. They seemed very shabby and many had large cracks in the walls. Walking along the road were some people who looked just as tired as us. The lucky ones wore a heavy *jad* to keep out the cold.

Soon after we arrived a bell rang. It was time for *mur*. We had to wait for a long time before we could eat. There wasn't much of it and there would be nothing else to eat until tomorrow. I was still very hungry when I'd finished. Boredom seemed to be a big problem here. Most of the time there wasn't much for us to do.

Every now and then there would be a fight and someone would end up in trouble. They would then be taken away and we wouldn't see them for a few days, sometimes a whole week. Breaking the rules here could be expensive. At night, we tried to sleep, but the beds were very hard. Next morning we were woken up by the sound of *geps* in the corridor. The door was thrown open and we were ordered to get up.

sev	jad	mur	geps
			
			
			

Figure 52 Combination of images & narrative text based on *The Silver Sword* (Serraillier 1956)

This design retained the combination of images and text used in the feasibility study, but dispensed with the fortune lines. Nonsense words, taken from Vygotsky's original block experiment, were inserted into the text, with several pictures potentially corresponding to each one. The use of these words was intended to counter students' tendency to form snap definitions and encourage them to attend to the text. Interpretive dilemmas were expected to persist if students read only sentences containing nonsense words. A reasoned choice, on the other hand, would be possible if the text was read as a whole, allowing the narrative setting of a wartime prison camp to be grasped.

13.4.2 Non-fiction design based on mobile phone website

Some designs were based on non-fiction texts in order to explore the influence of text type on students' management of dilemmas. In this instance the text is constructed by the students from a bank of statements printed on cards (below), any of which may correctly correspond to the key phrase at the top of each column. These are placed on an answer sheet (bottom right) alongside the image that they best describe (bottom left).

It gives you push notifications	It can sense proximity	It has an oleophobic coating	It uses cloud technology
It tells you when you have a text message.	It can tell when you are holding it.	It is easy to keep clean.	It communicates with computers.
It tells you where to go.	It can see things far away.	It is difficult to steal.	It makes rain.
It tells you how much money you have.	It can detect flames.	It is difficult to break.	It makes lightening.
It tells you when it is hungry.	It can see in the dark.	It is poisonous.	It makes steam.
It tells you what floor you are on.	It can see your insides.	It is invisible	It keeps you dry.



Figure 53 Combination of images & captions taken from mobile phone website

As in the feasibility study, the images appeared to dominate the task with the result that the text based materials were largely ignored. This view was confirmed by one of the students, Lily, in a subsequent meeting (Appendix H2.2, p.321), and images were dropped from subsequent iterations.

Lily- The picture one you didn't do much work cos you just choose a picture randomly- but the word one you're doing much more work which I like.

Researcher- But the picture one you couldn't choose randomly because only some of the pictures fitted the sentences properly. You did quite well because you picked the mobile phone didn't you.

Lily- Yes.

13.4.3 Design based on Kensuke's Kingdom (Morpurgo 1999, pp.42-45)

We've had a terrible time-far worse than last week. But the weather is getting calmer at last. It's not easy to get any sleep when you are being slammed about all night!

Those are the last words I ever wrote in my diary. I'd heard Sally barking outside and went to see what the matter was. The wind was very strong and I had to hold on to the guard rail to avoid being blown over. I called Sally's name and whistled for her but she wouldn't come. I heard her barking again, but this time it was very faint. She seemed to be getting further away.

I heard the **sevs** flapping wildly above me. The sky was clearing but the breeze was still very strong. The rain made everything slippery and I nearly fell several times as I staggered along.

'This is crazy', I thought. 'I'm not wearing a **jad** and if a gust of wind were to blow me over I'd be in real trouble.' Just then I saw my football- the one I'd given Sally to play with. I tried to pick it up but before I could get to it rolled into the **gep** and disappeared.

I was angry with Sally for running off, but I was relieved all the same when I found her. I grabbed her collar and tried to get her to move but she wouldn't budge. By now I was wet, cold and really fed up, so I bent down to pick her up. As I did so to my horror I saw a huge **mur** rear up in front of us. I just about had time to cry out for help but by then it was too late to escape.

sev	jad	gep	mur
sail	lifejacket	sea	rock
flag	raincoat	bushes	cloud
bird	helmet	jungle	alien
wing	spacesuit	lava	dragon

Figure 54 Combination of 'easy' words & text based on Kensuke's Kingdom (Morpurgo 1999)

The nonsense words were returned to in this design but, this time, were combined with cards marked with familiar, easy to read words. Each nonsense word can potentially be defined using any of the cards- it is only when the surrounding narrative is considered that a reasoned solution becomes possible. Within each set of cards two are *intended* dilemmatic choices (e.g. *sail* and *flag*) and two are *unintended* dilemmatic choices (e.g. *bird* and *wing*). In this way it was hoped to avoid prejudging the basis on which students would make their decisions and restricting task parameters to a foregone conclusion. The principle being applied here derives from the earlier analysis of Eco's open work (p.70), namely that linguistic symbols and coherent texts are structured according to the same inferential logic.

13.4.4 Pupil peer observation sheets (see Appendix C5)

Formats were also developed for use by students while observing and recording the behaviour of their peers. Two functions were intended to be served by these tools. First, they allowed students and researcher to compare their interpretation of the same interactions- the students forming their response 'live' and the researcher from viewing video recordings.

Second, they had the potential to facilitate the cross fertilisation of tactics from one group to another. Of particular interest were instances that lead a group to modify the code they operate. In the event, however, the groups proved too small to function once an observer had been released and there were problems with groups complaining they had been distracted (see interviews for Groups A and B, Appendix H1).



Figure 55 Pupil observation sheet (left) and Jim's observation of Group B (right)

13.5 Rapid prototyping: Content (Weeks 3&4)

During the following two weeks the format was frozen and 'on the fly' changes made to language content based on direct observation of the students' activities. Full details of these materials can be found in Appendix C4.

13.5.1 Format of materials and activity structure

A criticism of the materials expressed during the previous two weeks was that they were too disjointed and that it would be more interesting to have a story that developed over time. Teacher B was keen to see how the materials translated to an extended narrative and whether this would mitigate the test-like response of some children. Teacher A was also of the view that this would lead to greater engagement with the task materials.

'Miss! Miss! Can we read the whole thing now?' I've heard that so many times. Once you're reading and the students are into it they don't want you to miss bits out do they? I missed big chunks out of Private Peaceful....'I'll summarise it for you'. No! They wouldn't have it at all. They begged me to read it. (Teacher A. H2.2, p.335)

Accordingly, materials for this phase of the prototyping process were developed around a novella for young adults called *The Improbable Cat* (Ahlberg 2004). The theme and plot structure in this book closely match that of *The Ghost of Thomas Kempe*, the novel which featured in the critical incident related in Chapter One. Here, a family take in a kitten not knowing that it has supernatural powers. All those who touch the cat fall under its spell and neglect their responsibilities in order to provide it with food and luxuries. The main character survives because he is allergic to cats, but is forced to look on as his family and their home disintegrate. He, like the character in *Ghost of Thomas Kempe*, cannot confide in anyone due to the fantastic nature of events. It is only through outwitting the cat that he is able to lure it to its death (it is run over by a petrol tanker) and save his family.

This book was chosen because it challenges the skills of readers who are prone to interpret events literally and to construct their understanding through attending to concrete facts. To appreciate the narrative's central themes one would have to infer the main character's feelings of isolation and the cat's growing supernatural powers from the everyday experiences it describes. Reading it as a closed text leaves one locked out of the story and unable to gain meaning from it.

An open text, however open it be, cannot afford whatever interpretation.... The naïve reader will be unable to enjoy the story (he will suffer a final uneasiness)
(Eco 1979, p.9-10)

The three part activity structure developed over the previous two weeks was expanded to four parts, again in the light of feedback from staff and students. Two students, May and Betty, both asked for more opportunity to make things rather than simply draw pictures in response to what they had read. Betty suggested puppets made out of card and stuck onto sticks and materials were provided for this purpose. Teacher B had a friend who worked as a salesperson for an educational toy company and had heard that play dough was popular as a medium for mediating children's creative response to text. These materials were also purchased.

The activity structure used during this phase was as follows:

Reading

The first part of the task required students to take turns in reading the text aloud. In light of students' tendency to fight over who would read the shortest paragraph, an effort was made to ensure that subsections of the text were equal in length. Attempts were also made to curb the reluctance of students to attend to the text whilst others were reading. In particular, it was hoped to encourage students to monitor and repair the reading errors of their colleagues and, to this end, initial variants of the text featured tick boxes in the margin of the type shown below in Figure 56.

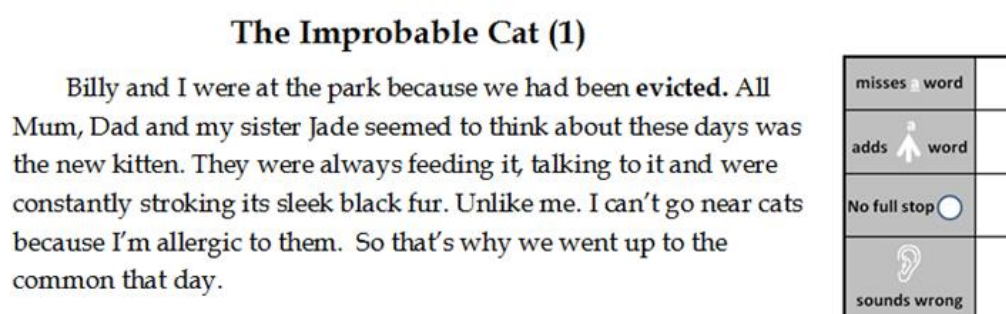


Figure 56 Tick box for monitoring reading accuracy

These amendments proved to be a distraction, however, with passage reading sometimes disrupted as students argued with one another over their entries. Instead, a simple numbering system was used which succeeded, to an extent, in facilitating a smooth changeover from one reader to another (Figure 57).

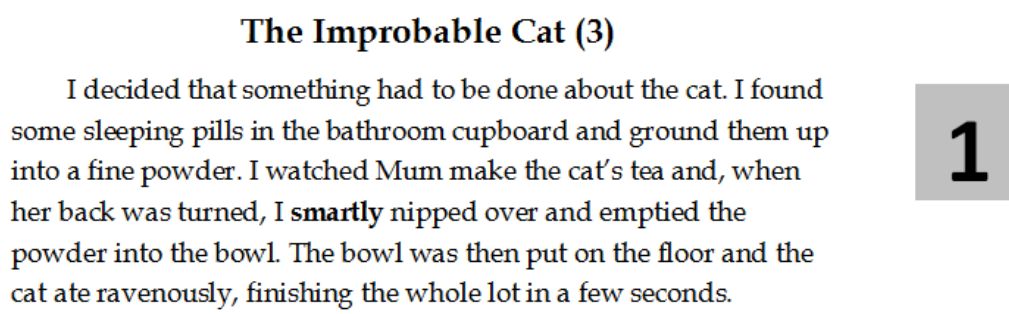


Figure 57 Numbered paragraphs to aid sequencing

Solving

As before, a set of cards were provided, some of which served as synonyms for target words in the text highlighted in bold print. In addition, an answer sheet was provided (Figure 58) marked with the target words onto which groups could place their solutions. This, it was hoped, would allow students to track which aspects of the task were being attended to at any given time and also to notice choices that subsequent discussions revealed to be wrong.

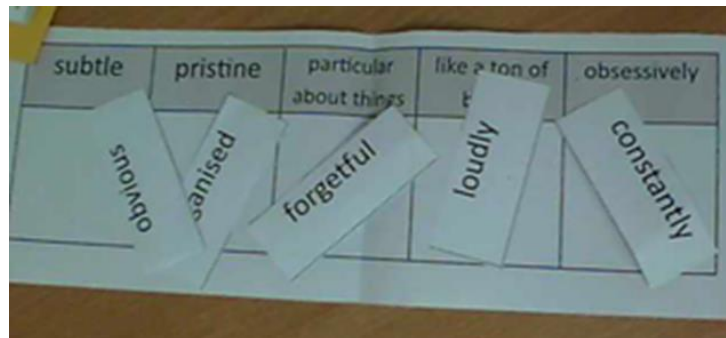


Figure 58 Answer sheet for solving task

Making

The third part of the activity involved students making props and visual aids to assist their retell of the story. At first this was largely unstructured- students simply used the provided materials as they saw fit. Where groups used puppets to enact the events in sequence, this seemed to work well and lead to coherent reconstructions of the plot structure to which all contributed (Figure 59 left). In other groups, however, it resulted in a 'shopping list' whereby a single member of the group would itemise characters and objects that had been made (Figure 59, right).

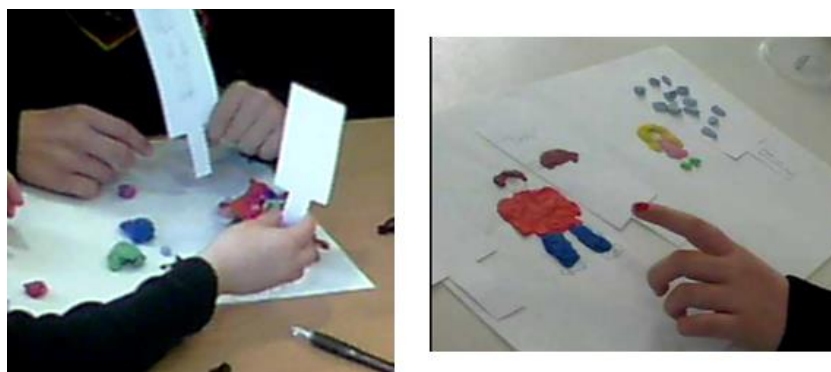


Figure 59 Group B retell (Appendix D2.6). Group A retell (Appendix D2.5)

In light of this the answer sheets were adapted, allowing groups to allocate responsibility for each scene to the student who had read it aloud during passage reading. The sheets were numbered to facilitate sequencing and marked with the target word for each paragraph against which a selected card could be placed (Figure 60, below).



Figure 60 Combined answer sheet for solving task and making activity.

Retell

A decision was made to allow students to access copies of the text whilst they retold the story. This, it was thought, would avoid the risk that reading for meaning would be supplanted by reading for memory. Still images from recordings of retells were added to PowerPoint slides that summarised the main story events covered by each group. These presentations where then used as a focus for whole class reflection at the beginning of each session.

evicted	enthusiastically	squall	distorting	solemn
shut out	happily	wind	spoiling	serious

B

Two boys thrown out of the house

Mum and dad only care about the cat

A storm came that blocked the window

All the family are worried for some reason

Figure 61 PowerPoint slide used for whole class reflection on activity.

Aside from the minor adaptations to format outlined above, the main focus in this phase of prototyping was on design changes to the language content of the materials. The five exemplars, below, are described in terms of the interpretive dilemmas they were intended to stimulate. These correspond to the cases selected for analysis in Chapters 15 and 16. These iterations preserve the word-text format arrived at during the previous fortnight, but drop the use of nonsense words which had invited speculative solutions solely on the basis of their physical similarity to other known words. The *target word*, highlighted in bold, was intended as a word that is relatively obscure in its pronunciation and/or meaning. The words printed on the *solution cards*, on the other hand, were taken to be familiar to the students, with well-established meanings. It has to be remembered that the aim at this point was to explore different types of aberrant coding. Hence the materials reflect dictionary definitions and are not, as yet, addressed to violate the code of a given group.

13.5.2 Squall

By the time we made it home again, the rain had started to come down very heavily. A sudden **squall** tore along the street and shook the top of the branches in the trees violently. Both Billy and I were soaked but, for some reason I didn't go straight inside. Instead I looked through the kitchen window....

Squall <small>Dictionary meaning Sudden violent gust of wind accompanied by rain</small>
Wind
Car
Storm

In previous tasks the students were observed to base their decisions on re-reading a small fragment of the sentence containing the target word. The intention here was to lure the students into selecting *car* as a solution for *squall* by juxtaposing the target word with the phrase *tore along the street*. If inserted, this word is a poor fit for grammar in a restricted re-read- *A sudden car tore along the street*- and, so, should be rejected. Students would therefore face a choice between a preferred candidate that does not fit syntactically and two metrological candidates that are, to all intents and purposes, inseparable.

13.5.3 *Pristine*

Normally Dad liked everything to be tidy. His shirt collars were always **pristine**. Trousers ironed and shoes polished. Every day when we got back from school he'd ask Jade and I how our day had been and help us with our homework. No matter how tired, he always took an interest in his kids.

Pristine Dictionary meaning <i>Fresh, clean, unspoiled</i>
Clean
White
Cotton

This design targeted the students' tendency to privilege prior experience in forming their interpretations and to ignore data falling outside of this repertoire. The students wore white shirts and blouses as part of their uniform and so *white* was included as a solution for *pristine*. However, although the students' shirts are white when pristine this cannot be generalised to the shirt referred to in the narrative.

13.5.4 *Conscience*

Two weeks later, at six in the morning, the coach came to take us to the school camp at Thomas's farm. All the parents yawned sleepily as they waved us off, apart from my Dad. He just looked anxiously at his watch as if he was desperate to get away. Then we were off, each mile taking us further from our homes, our families, our computer games and our pets... I struggled with my **conscience** as we sang our happy songs and told jokes. I told myself that the family would be okay and that nothing bad would happen whilst I was on holiday.

Conscience Dictionary meaning <i>The inner sense of what is right and wrong</i>
Guilt
Sadness
Tent
Seatbelt
Experience

This design was a response to students' preference for concrete rather than abstract referents for nouns and verbs. Reading only a fragment of the target sentence- *I struggled with my conscience*- was predicted to lead students towards a dilemmatic choice between *tent* and *seatbelt* that cannot be resolved in this way. However, the interpretive dilemma of *guilt* versus *sadness* can be resolved by considering evidence beyond the target sentence- *I told myself that the family would be okay and that nothing bad would happen whilst I was on holiday*.

13.5.5 Distraction

The farm was just what I needed after the last few weeks. The work we had to do was hard, but it was a welcome **distraction** from my troubles. After three days I'd stopped thinking about the cat and all that had happened. It was if it had all been a dream. Until, that is, I had my idea. There were five of us that were told to stack some straw bales. It was hot work and the straw scratched our skin and made it itchy. As soon as the farmer's back was turned we started messing around.

Distraction Dictionary meaning Something that serves as a diversion
Escape
Journey
Distance
Job
Problem

This design targeted two observed reading behaviours. The first concerns visual miscues during passage reading whereby one word was sometimes substituted for another similar looking word. For example *kitchen* might be misread as *kitten*. In this design *distance* is included as a distractor owing to its physical similarity to the target word *distraction*. The second relates to the tendency of students to restrict their attention to text immediately surrounding the target word, here *work (job)* and *troubles (problem)*. Once more a reasoned solution is possible if information beyond the target sentence is attended to- *I'd stopped thinking about the cat*. For this reason, the target word was positioned towards the end rather than at the beginning of a sentence.

13.5.6 Pulverised

If the cat had stood its ground it would probably have been too strong for us. But it was outnumbered and the dogs, particularly Billy, all fought bravely. So, with a terrifying howl, the cat leapt across the room and through the front window with a deafening crash. We all ran to the front door just in time to see it jump over the hedge and into the road. Suddenly there was a screeching of brakes and then a crash. In the headlights we could see that the cat was dead- **pulverised** by a passing petrol tanker.

Pulverised Dictionary meaning To demolish or crush
Crushed
Run over
Killed
Hit

Although the words *brakes* and *headlight* suggest a traffic accident of some kind, this inference is not enough to choose from the dilemmatic candidates. It

is only if the implications of *petrol tanker* (i.e. large and heavy) are grasped that the preferred solution is made salient. The aim is to encourage students to cross check items of text rather than attend to them in isolation.

Chapter 14 Overview of prototyping data and case selection process

This chapter provides an overview of data from the York Assessment of Reading for Comprehension (YARC) test battery, as well as the coded video data used to select cases for transcription and analysis.

14.1 YARC test data

A consequence of giving school staff control over the administration of the YARC test battery is that the data collected has limited value as quantified baseline measure of ability. A lack of timetable space meant that either the Supplementary or the age appropriate Level One reading materials were used, never both, leading to wildly varying scores across the sample. For example Pete (Level 1) came out as weaker in non-fiction comprehension than Jim (Supp), despite ample evidence in the prototyping sessions that he is a much stronger reader. At best, one can infer outliers from these numbers- the strongest readers (e.g. Betty, Group A; Rob, Group D) and weakest readers in the sample (e.g. Sue and Eve, Group B; Jim, Group D). A summary of the results are shown overleaf, alongside images that depict the seating arrangement and organisation of materials typical for each group. The groups were formed according to existing friendship bonds, not reading ability, in order to increase the probability that shared values would be articulated in the sessions.

Of far greater value than the standardised scores were the recordings of test situations made by some of the staff and also their reflections on the process after it was completed. A teacher reading questions from a script to which students provide answers is governed by an institutional code from which the emotions and prefaced questions associated with dilemma management are absent. Students respond less according to their own values and more to the values that they perceive to underlie the test situation. In this sense, the test recordings give an unalloyed measure of students' beliefs as to what school requires from them as a reader.



	Chrono-logical age	Word reading age	Reading test materials	Comprehension scores	
				Fiction	Non fiction
Jill	11.08	11.00	Supp	12.00	8.06
Kim	12.02	12.06	Supp	10.08	9.05
Fay	12.06	10.06	Supp	9.08	13.02
Betty	12.00	11.09	Level 1	16.00	16.00

Figure 62 Group A (from left): Fay, Kim, Jill, Betty



	Chrono-logical age	Word reading age	Reading test materials	Comprehension	
				Fiction	Non fiction
Sue	11.11	9.06	Supp	7.07	7.07
May	11.11	11.09	Level 1	8.06	13.09
Eve	11.08	10.00	Supp	8.06	na
Lily	12.00	9.06	Supp	12.00	13.02

Figure 63 Group B (from left): Sue, May, Eve, Lily.



	Chrono-logical age	Word reading age	Reading test materials	Comprehension	
				Fiction	Non fiction
Ned	12.04	11.03	Level 1	8.06	13.09
Roy	12.04	7.05	Supp	13.05	15.11
Sam	12.02	11.00	Supp	10.08	13.02
Pete	11.08	11.03	Level 1	10.05	7.02

Figure 64 Group C (from left): Ned, Roy, Sam, Pete.



	Chrono-logical age	Word reading age	Reading test materials	Comprehension scores	
				Fiction	Non fiction
John	11.07	10.00	Level 1	7.07	7.02
Rob	12.02	10.09	Level 1	12.10	16.00
Jim	12.06	8.00	Supp	7.07	9.05
Ali	12.00	11.00	Supp	12.00	13.02

Figure 65 Group D (from left): John, Rob, Jim, Ali

Recordings of passage reading and their accompanying running records (Appendix B5) are suggestive of two deontic institutional codes that could be construed as aberrant. The first is one whereby the text is read as quickly as possible, with each word recognised by sight and read one after the other in the form of a list. This, for example, is the approach taken by Kim, an excerpt from whose passage reading transcript is shown in italics, below.

Does the sight of a bumble bee fill you with dread? It shouldn't: although larger, it is less aggressive than the honey bee and will only attack if threatened. Also, unlike honey bees, bumble bees never form an angry swarm because their nests are small.

Does the sight of [a] bumble bee fill you with dr....dread? It shouldn't: although larger, it is less ag...aggressive than [the] honey bee and will only attack if threatened, also, unlike honey bees. Bumble bees never form an angry swarm because their nests are small.

Kim achieved the highest word reading score in the cohort (age equivalent 12.06), indicating that she has a reasonable sight vocabulary and word attack skills. This is apparent in her successful attempts at *dread* and *aggressive*. In her haste, however, Kim often omits simple words [*a*; *the*] and punctuation marks, with the result that her decoding of print makes little sense and sounds grammatically awkward. Either Kim does not detect this or, alternatively, she prioritises repairs according to the challenge posed by each word in turn. Effort is invested in 'hard' words, whilst easy words are literally taken as read. This allows Kim to streamline her approach and avoid time consuming re-runs of text that impede speedy progress through the passage. Hence, out of sixteen errors Kim made when reading this text, only one was detected and self-corrected. Despite her considerable word level knowledge, Kim's comprehension age equivalent score was well below her chronological age (9.05 versus 12.02). One might speculate that this disparity is a consequence and not a cause of her approach, reflecting a belief that 'good' reading is correctly identifying the highest proportion of words correctly in the shortest possible time.

Jim, by contrast, was identified as having severe difficulties in word reading (age equivalent 8.00 against chronological age 12.06), and this shows in the excerpt, below.

Does the sight of a bumble bee fill you with dr...dread? It shouldn't: al....although larger. It is less a...aggressive than the honey bee and will only attack if threatening, also, unlike honey bees, bubble...bumble bees never f...form a angry swarm because the nests are small.

Jim's pace is much slower- he took 156 seconds to complete the passage against Kim's 132 seconds. This, in large part, reflects the much greater effort Jim expended in ensuring each word was decoded correctly (e.g. *dread*, *although*, *aggressively*) and monitoring and repairing any mistakes he was able to detect (e.g. his self-correction of *bubble/bumble*). Across the entire passage, Jim made only nine errors, three of which he self-corrected and, unlike Kim, he did not omit or insert any words into the text. This suggests an entirely different deontic code altogether, one under which speed and efficiency are sacrificed for accuracy and fidelity to what the print actually says. Yet the effect of this approach on the integrity of what he reads is remarkably similar. Once again there is little account taken of punctuation, the misreading of commas and full stops serving to destroy the grammatical coherence of what he reads aloud. This, again, is treatment of text as a form of list, but with accuracy, not speed the as the primary goal. In the event, Jim's comprehension score was identical to Kim's (age equivalent 9.05).

There was evidence in subsequent meetings to suggest that teachers themselves value and transmit these coding procedures to students. Jim was given praise by Teacher A for his extensive efforts in successfully decoding *pesticides* in his reading of the above passage- *Good lad!* Teacher A later explained her personal commitment to both the word recognition and phonetic skills prioritised by Jim and Kim (Appendix H2.2, p.335)

I was taught 'Look and see'. There was nothing phonetic at all about my reading. So it's something I've picked up myself over the years- I was at school at the end of the 60's- you had Janet and John and you literally saw the shape of the word and memorised it.

What came across in these meetings is a belief that some students' proficiency with words necessarily indicates a superior understanding of texts. Here, for example, in an exchange between myself and Teacher B (Appendix H2.2, p.335)

Teacher B: *Kim. Kim's pretty good. It's quite frightening that Jim is a leader and will always be a leader and yet look where he is.*

Researcher: *With words, yes. But look where he is with text. He's quite visual. He likes working with the whole picture.*

Teacher B: *He's good at art isn't he? He's good at drawing.*

Kim is perceived as the better reader because of her facility with word recognition, whilst Jim's dominance of Group D is seen as problematic owing to his weakness in this area. His strength, using drawings to depict the gist of what he has read, seems to have little currency by contrast. Kim was also seen in the prototyping sessions to articulate word level strategies that may have been coached as examination tactics- these children had completed their Key Stage Two tests less than a year previously. Here, for example, is her advice to another student on how to approach the solving tasks:

You have to read around the word first! (Appendix D2.25, p.185)

An extreme example of this approach was evident in the recording of Roy's passage reading and comprehension test (see Appendix B4.2 for full transcript).

Does the.. scent of bees...bumble bees feel you.. w..with....dreed?... It shouldn't: annoy....la::dry... largery... it is less angr::y than the... h..honey bee and will al::ways attack if... fentry, also. Unlike honey bees, bumble bees... never ...form an angry swarm because they nest [sneezes]. A small.

Roy took 192 seconds to read this passage, making 29 errors of which only 4 were self corrected. Roy scored age equivalent 7.06 on the word reading test (severe difficulties) and these limitations are evident in the above excerpt. Some errors suggest that he restricts his attention to first and last letters, for example *scent- sight; feel- fill*. However, he is sometimes hampered in these efforts by a failure to distinguish letter inversions, for example *annoy- although; fentry- threatened*. Following these tests, it was discovered that Roy suffers from a

hearing impairment, which may help to explain some of his difficulties with phonics and letter recognition (H2.2, p.331).

Teacher A *He's down on the SEN register as school action plus but just speaking and listening- nothing about his hearing.*

Teacher B *When I taught him at the beginning of the year I had to sit him at the front- and there's no reason why I should have thought you weren't aware of that- I had him on the right so it must be that he had better hearing in his left ear. But verbally, when he speaks to you.....*

Teacher A *It's not formed.*

Teacher B *So I wonder if it's because he can understand words but can't say.... I think it's a physical thing rather than not understanding what the word is. Really, he should have had speech therapy shouldn't he?*

Despite these severe difficulties, Roy scored highly on the comprehension tests, achieving an age equivalent score of 15.11 on the non-fiction text 'Bees'. Roy was able to achieve this by using the teacher's questioning to prompt his reconstruction of a coherent text from the fragments he had been able to translate. Knowing that the test items would refer back to the text in sequence, his strategy was to identify a key phrase in each question, scan the appropriate section of the text for this word and then 'read around the word' to locate the answer. The following excerpt clearly shows this strategy in action (relevant section of text above, transcribed response below)

After winter hibernation the queen bee constructs a nest in an old mouse hole or leaf litter or, sometimes, under a shed or large stone. Subsequently, she lays the eggs from which female worker bees develop. While the worker bees collect nectar, the queen continues egg laying. From those eggs laid in late summer, male drones and queen bees develop.

Teacher A *What type of bee develops from the first **eggs laid**?*

Roy [Reading from the text] *Queen.*
 [Reading from the text] (24.0)
 The egg laying (1.0). Is it a male?
 [Reading from the text] (6.0)
 In later summers males.
 [Reading from the text] (38.0)
 A female worker bee.

(see Appendix B4.3, p.15 for full transcript)

The questioner's phrase 'eggs laid' is a distractor, intended to lure Roy towards an incorrect answer 'male'. Instead, Roy locates 'eggs laying' having

initially suggested 'queen' which appears in the same sentence. At this point Roy possibly receives some signal that this response is not correct and there follows a lengthy silence of 24 seconds as he scans the text. Next, he locates 'in late summer', and finally accepts the test designer's bait- 'males'. Again, he divines that this answer is incorrect and there follows another silence, this time 38 seconds long. Finally, he locates the right answer 'female worker bees', probably by locating the only other reference to *eggs* in the passage. In this way Roy was able to excel in the comprehension test despite being unable to read the passage. His approach suggests the text was not perceived as a meaningful artefact in its own right. Instead, it was simply a means to an end, a tool with which to answer the teacher's questions with a correct response. In light of this, one would place even less trust in the test scores than was previously suggested.

Interestingly, there is a marked difference in the fiction and non-fiction test scores for many of the students. One might assume that this reflected a preference for one text type over another, but this appears not to be the case. Teacher B made the following comments concerning her testing of Ned (Appendix H2.2, p.335)

I had a really strange experience with..... one of them... he was much better on the non-fiction test materials and was really bad on the fiction and I thought I'd chosen the wrong level completely but I persevered with the non-fiction text and he was.... Cos afterwards I said what do you like reading at home and he said fiction! [Laughs] I expected him to say non-fiction. It felt like there was such a difference.

14.2 Coding of recorded solving episodes

Two codes were developed to aid in the selection of cases for transcription, both deriving from the domain theory underpinning the designed materials. First, solving episodes were coded according to the degree to which the dilemmas realised by the students coincided with those intended by the designer. Second, each turn in a solving episode was coded according to its function and orientation (restricted or elaborated).

14.2.1 Coding types of dilemma realised by students

Figure 66 shows the four target words (top of column) and 20 solution cards provided to the groups in the Week 4 Day 2 session (Appendix C4.6, p.55). Each target word (e.g. *conscience*) has a *correct* solution that corresponds to its dictionary definition. Alongside this correct solution are competing candidates that are *intended* by the designer to stimulate interpretive dilemmas. Some of these candidates are compatible with the correct solution (e.g. *sadness*), others are speculative guesses as to the aberrant coding that students may apply (e.g. *tent* and *seatbelt*). All of the remaining fifteen cards correspond to other target words, and so any dilemma involving these choices would be an unintended consequence of the design.

	Conscience Dictionary meaning <i>The inner sense of what is right and wrong</i>	In vain Dictionary meaning <i>Ineffectual or unsuccessful</i>	Distraction Dictionary meaning <i>Something that serves as a diversion</i>	Eureka Dictionary meaning <i>I have found it</i>
Correct →	Guilt	Unsuccessfully	Escape	I've got it!
Intended →	Sadness	Too late	Journey	Ouch! ← Unintended
	Tent	A long way	Distance	Oh no!
	Seatbelt	As a joke	Job	Let's go!
	Experience	Not far	Problem	Hello!

Figure 66 Target words and solution cards Week 4 Day 2 (Appendix C4.6)

The objective of coding was not to gauge students' ability to identify and discriminate between candidates that plausibly relate to the same dictionary definition. It was geared, instead, to identify cases where the interpretive dilemma forecast by the designer was realised by the students and also, perhaps more importantly, cases where this was not so. Unintended dilemmas are potentially sites where unforeseen aspects of a group's coding procedures may be inferred from the resources they use and those they neglect. Hence, Teacher A's suggestion that cards relevant to each target be colour coded to simplify the task and reduce confusion was resisted.

Teacher A *Well the children I saw were trying but their attempts didn't really make any sense. Maybe you could scaffold it by having the cards for each a word a different colour and then, when they'd got the hang of it, take the colour scheme away. (Appendix H2.1, p.330)*

Each episode of word solving was colour coded according to the scheme shown below in Table 27. *No dilemma* management was observed when students picked a solution without discussion, or when competing candidates were mentioned only once and dropped (*blanks*) or immediately rejected and not reactivated (*rejects*). Episodes coded as *Student's Dilemma* all involved management of unintended candidates and, therefore, were unforeseen by the designer. Those coded *Teacher's Dilemma* either involved management of intended candidates only, or a mixture of correct and intended candidates.

Code			Example
No dilemma		Single candidate considered	Tent
		Single candidate + blanks and rejects	Tent (Job)
Student's dilemma		All unintended candidates	Not far/ Hello!
		Unintended & intended candidates	Too late/Tent
		Unintended & correct candidate	Too late/Guilt
Teacher's dilemma		Unintended, intended & correct candidates	Too late/Tent/Guilt
		Only intended candidates	Tent/Seatbelt
		Only intended & correct candidate	Tent/Guilt

Table 27 Coding of dilemmas during solving tasks

14.2.2 Example of a coded synopsis

Each recording of a solving episode was viewed repeatedly and a synopsis made. Figure 67, shown overleaf, shows a synopsis of Group D's attempt to solve '*conscience*'. Data include the order in which the target words were solved (far left), start and finish times (left), cards referred to in the episode (top) and a summary of the turns that were observed (bottom). Each synopsis is colour

coded according to the scheme outlined above. Details of all other synopses can be found in Appendix E4.

1	1.18-3.27	Target word: conscience (con-sense) Selected candidate: sadness Dilemmatic candidates: Intended (tent, sadness) Blanks and rejects: Unintended (I've got it!, unsuccessfully); Intended (experience, seatbelt); Correct (guilt)
	2.09	Sequence: proposal (tent)- focus-search-focus – focus-proposal (sadness)- search-repeat proposal (sadness)- check (sadness)- negation (sadness)- counter proposal (tent)- negation (tent)- justification (If they're in the car)- check (tent)- challenge (where does it say he's in the car?)- check (tent)- defence (something that's heavy)- check (sadness)- defence (Sadness makes more sense)- check (sadness)- counter proposal (I've got it!)-negation – search- blank proposal (guilt)- search – proposal (seatbelt)-negation – selection (sadness)- blank proposal (experience)- challenge- check (sadness)- negation- clarification (unsuccessfully)- clarification (unsuccessfully)- proposal (unsuccessfully)- negation (unsuccessfully)- search – focus

Figure 67 Synopsis of dilemmatic episode for Group D 'Conscience' (Appendix E4.24, p.254)

14.2.3 Overview of coded synopses and groups targeted for analysis

Table 28, overleaf, summarises all 132 synopses, including the Group D example above (circled). Figures represent the duration of each episode in seconds; an asterisk indicates that the correct solution was finally selected.

Two of the four groups appear to show a distinct and pattern, suggesting a consistent approach to the solving tasks. Group A is distinguished by the rapidity with which they reach decisions and the scarcity of examples of dilemma management (only 5 out of 34 episodes). One might assume that this was simply because they had recognised the correct solutions and so had no need to engage in a protracted discussion. However, they were successful in identifying only half of the correct solutions and, even on these occasions, one would expect attention to given to other viable candidates before a final decision was made. The Group D data suggest a very different dominant institutional code. Here there are only 7 episodes where a dilemma was not realised and, consequently, each tends to have a longer duration. The group identified fewer correct solutions (13 out 34) but recognised elements of the teacher's dilemma on 21 occasions.

		Group A					Group B					Group C					Group D								
		1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5				
Week 3	1	0.31	0.02	*	0.55	0.12	0.07		0.44	0.42	0.35	0.28	0.27		0.07	0.38	0.50	0.25	0.13	*	1.03	*	1.14	0.45	1.00
	2	0.29	*	0.16	0.17	*	0.17	1.11	0.38	0.21	0.34	0.33	*	0.27	0.45	0.21	0.21	1.25	0.24	*	1.29	0.16	0.58	1.04	*
	3	0.22	*	0.13	0.27	*		0.21	0.24	0.30	0.24	0.24		0.17	0.14	0.57	1.06	*			0.35	*	1.37	0.58	1.37
	4	*	0.17	0.12	*	0.10		1.48	1.35	0.23	0.31		0.35	0.24	0.29	0.05	*			1.12	0.31	2.58	*	0.21	
Week 4	5	0.45	*	0.09	0.19	0.11			0.44	0.11	2.42	1.20		0.54	2.05	0.29	1.44			1.19	1.22	*	2.13	3.20	
	6	2.15	*	1.12	0.38	0.23		0.44	1.32	0.29	0.16	*	*	1.40	2.14	1.14	0.16			2.09	*	3.02	*	0.53	
	7	*	0.48	0.43	0.09	0.27		0.49	0.54	0.21	0.36	*	0.02	0.05	1.43	0.15	0.15			*	0.41	2.01	0.40	0.51	
	8	*	0.02	0.43	0.32	0.11		0.11	0.35	0.46	0.15		1.09	0.34	0.22	0.34	*		1.04	1.16	1.43	*	0.13		

Table 28 Overview of coded synopses with Group D Wk4 Day 2 circled.

Although transcripts will eventually be sampled from all groups, space restrictions mean that detailed analysis of data from two groups can be accommodated within the thesis. Due to the distinct patterns observed above, episodes drawn from Groups A and D will form the focus of analysis in the following two chapters.

That is not to say that there is nothing of interest to be gained from Groups B and C. The video logs are suggestive of distinct deontic institutional codes that underpin the patterns of dilemma management in Table 28. The data for Group B, for example, appears to undergo a transformation from Week 1 to Week 2. In the first week, dilemmas are either ignored or realised according to the designer's intentions. In the second week the tendency to minimise dilemmas becomes more prevalent and the basis for dilemma management more fractured. The group's video logs narrate a power struggle over this period whereby the dominance of one child (Lily) was challenged and supplanted by the dominance of another (May). This led to a schism within the group whereby the now subordinate pair (Lily and Eve) were exiled and ceased to participate. Here the morality of friendship appears to have had a material effect on the students' disposition towards the task, as reflected in the changing seating arrangements over this period (Figure 68). Lily moves from a central position of control to a remote position where she is not even in shot.



Week 3, Day 2

Lily (*right*), polices the activities of Sue (*middle*) and May (*left*) as they try to agree a solution for *pristine* (Appendix D2.6, p.87). Eve was observing another group during this episode and was not present.



Week 4, Day 2

Sue and May control the solving of *distraction* whilst Eve (*right*) and Lily (*out of shot far right*) look on. (Appendix D2.22, p.170)

Figure 68 The disintegration of Group B over Weeks 3 & 4.

The video logs for Group C convey a different narrative again, one centred on a deviancy geared to disrupting the task as a meaningful exercise. Roy used his personal authority to violate the rules he perceived to govern the task, his strategies including physically absenting himself (Figure 69), sexual innuendo to camera (Figure 70) and abuse of other group members (Figure 71).



Week 4, Day 4

Roy refocuses the camera so that only Pete and Ned are in shot. Pete notices this and resets the camera. Roy then runs across the room and starts climbing a pillar.

(Appendix D2.31, p.214). Eve

Figure 69 Roy absents himself from proceedings.



Week 3, Day 4

Roy has made a phallic shape.

Roy- Look!

Pete- Do you know that before we started I moved the camera so that it was just on you?

Rob- I know... I seen you.

(Appendix D2.15, p.135)

Figure 70 Roy's sexual innuendo to camera



Week 4, Day 2

Pete suggests a **long way**, which is dismissed by Roy. *A long way? You tit!* Roy tells Pete to place the card on the answer sheet- *Well put it on then you dick!*

(Appendix D2.23, p.175)

Figure 71 Roy (left) abuses Pete (right).

This last trait is in stark contrast to the appearance of willing collaboration that Roy maintains when participating in Teacher A's RML reading programme.

Pete's a lovely boy- really considerate and kind and thoughtful. I see him in the reading group and he works with Roy really well.... Erm...They're very supportive of each other. We've seen that develop now in the groups they're in- that you've put them in. (Appendix H2.2, p.331)

Ned, nominally the strongest reader in the group, openly encouraged Roy's behaviour. This made impossible any concerted attempt to engage with the materials and it is significant that the group's best performance in Week 3 was on the third day when both Ned and Roy were absent. This improvement continued into the first two days of the following week when Sam moved to this group from Group D at his own request. Although Sam also subscribed to Roy's deviant code, for example in his abuse of subordinates (Figure 72), he was also motivated to succeed in the tasks.



Figure 72 Sam punches Pete as Roy looks on (Appendix D2.19, p.154).

What transpired was an alliance between Sam and Roy under which coherent and productive procedures started to emerge. However, Sam's expulsion from the prototyping sessions owing to a violent incident elsewhere in the school meant an almost immediate reversion to disorder. In each case, Group B and C failed to stabilise the deontic institutional code by which their activities were coordinated, resulting in a less consistent pattern of dilemma management shown in Table 28.

14.2.4 Coding turns according to orientation

As a further aid to case selection, each turn described in a synopsis was coded according to its orientation to meaning. Two categories of restricted turns were identified. The first concerns direct reference made to concrete artefacts such as the text, the target words or the solution cards. These were coded light grey, as shown below in Table 29.

Focusing (F)	Target word is located in the text and read aloud.
Self-correction (SC)	The group establish the correct reading of a target word as it appears in the text following an error.
Clarification (CL)	Word is read aloud in order ensure it has been correctly identified.
Search (S)	Reading from the text to locate relevant information.
List (L)	Definitions written on cards are read out in the form of a list .
Check (CH)	Reading aloud to test the correctness of a proposal by substituting it for the target word. Checks can serve as a proposal in their own right.
Check list (CT)	An individual inserts candidates into the text one after the other, reading out the results in the form of a list.
Confirmation (CN)	Reading aloud directly from the text to confirm the status of a proposal or a decision as correct.
Citation (CI)	Quoting a word or phrase from the text in support of a proposal

Table 29 Turns indicating a restricted orientation to concrete artefacts

The second restricted turn type take the form of **simple statements** of fact. These were coded dark grey, as shown below in Table 30.

Proposal (P)	A card is nominated for selection.
Blank proposal (BP)	A proposal that is made that is not followed by any further comment (e.g. there is no negation, justification or challenge). The proposal is not repeated later in the episode.
Repeat proposal (RP)	Reiteration of a proposal.
Counter proposal (CP)	Proposal made in rejection of a former proposal.
Quasi-proposal (QP)	A proposal is made that is not marked on any of the cards. Instead it is proposed as something that 'should' be on the cards.
Negation (N)	A proposal is invalidated.
Reject (R)	A proposal that is made once only and negated without reason. No attempt is made to justify or defend the proposal at the time or to reactivate it through repetition later in the episode.
Discounted (DS)	Rejection of an option that hasn't been proposed by anyone.
Selection (SE)	A proposal is asserted as the correct answer and is placed in the grid
A priori meaning (A)	A meaning that a student attaches to a word that derives from their prior experience rather than the text.

Table 30 Turns indicating a restricted orientation to matters of fact.

An elaborated orientation to meaning was marked by *contests* between competing interpretations (challenges, justification, defence) or *splits* (split proposals or split selections). These were coded red, as below in Table 31.

Challenge (CG)	Request for a proposal to be justified
Justification (J)	Paraphrasing a section of the text in order to argue for the validity of a proposal or the negation of a proposal. This can be in anticipation or response to a challenge.
Defence (D)	Providing a counter argument when the legitimacy of one's proposal challenged.
Split proposal (SP)	Two or more competing cards are nominated simultaneously.
Split selection (SS)	Two or more competing solutions are placed on the grid

Table 31 Turns indicating an elaborated orientation to the task

Minimising moves, serving to curtail or 'outsource' the decision making process were coded white, Table 32, below.

Overheard (O)	Use of information gained through eaves-dropping the talk of another group.
Appeal (AP)	An appeal for guidance from a teacher or a fellow student
Election (E)	The group vote on competing options rather than make a choice
Deferment (DF)	The group postpones a choice leaving two or more options as competing candidates.

Table 32 Minimising moves

14.2.5 Coded episode summaries

Episode summaries were developed from the synopses using the above codes.

These allowed visual analysis and selection of solving episodes for micro analysis and were formatted as shown in Figure 73, below.

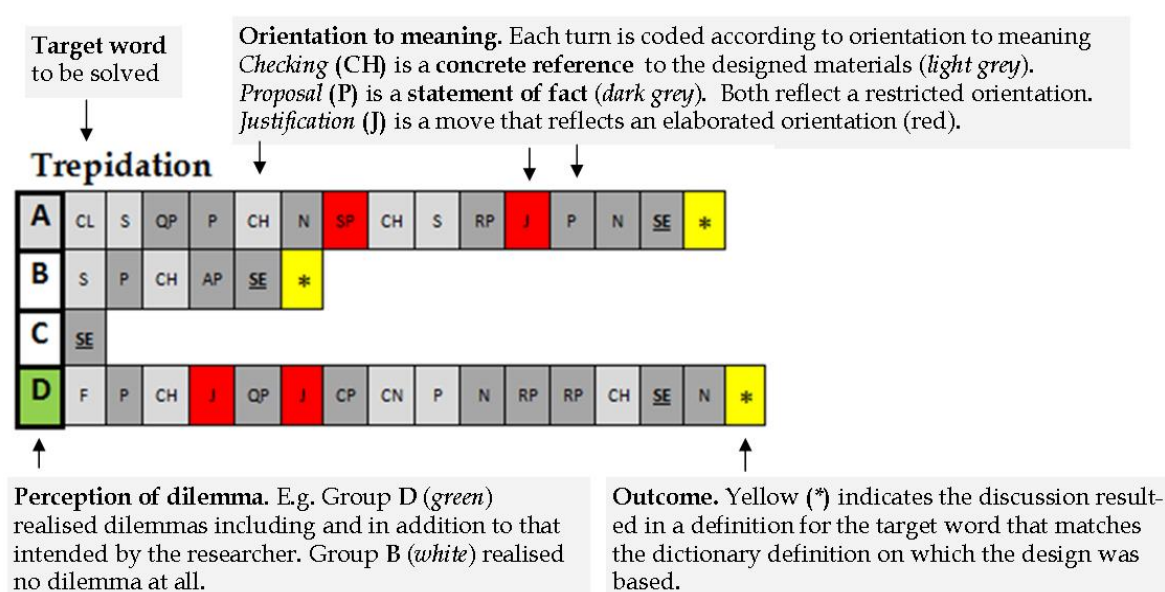


Figure 73 Key to episode summaries used in case selection

A	F	S	A	N	N	P	<u>SE</u>			
B	CL	S	P	SP	E	<u>SE</u>	S			
C	F	A	CH	<u>SE</u>						
D	F	A	<u>SE</u>	CG	J	A	CH	N	CH	J

[illegible]

A	F	L	SP	P	CH	RP	CP	<u>SE</u>	RP		OG	CH	J	CH	OG	J	CH	N	CP	SE		RP	CN	*
B	S	L	P	E	DS	RP	P	N	CP	J	<u>SE</u>													
C	F	P	CH	CP	N	J	S	P	CH	CH	P	CH	RP	CH	P	<u>SE</u>	CN							
D	F	CL	S	P	N	CP	CG	CI	A	<u>SE</u>	J	CH	CH	CL	CH	J	N	P	CN	RP	N	RP	<u>SE</u>	

A	F	S	P	CN	<u>SE</u>								
B	S	CL	A	P	AP	<u>SE</u>							
C	S	SP	<u>SE</u>	CN									
D	S	CL	QP	P	CH	N	P	CP	CN	CN	J	SS	<u>SE</u>

[illegible]

- Direct reference to the designed materials (**light grey**):
Focusing the task (**F**); self correction of misread word (**SC**); clarification of unknown word (**C**); search text for information (**S**); listing the cards (**L**); Checking the fit of a card by inserting it into the text (**CH**); Checking cards one after the other in a list (**CL**); Confirming an answer by quoting a fragment of the text; Citing sections of the text (**CI**)
- Statement of fact (**dark grey**):
Proposing a card as a solution (**P**); A proposal that is ignored (**BP**); A repeated proposal (**RP**); A counter proposal (**CP**); Quasi proposal (**QP**); Negation (**N**); Rejection of a proposal (**R**); Discounting of a solution; Selection of a solution (**SE**); An a priori definition is offered (**A**)
- Open, contested (**red**):
Challenging a proposal (**CG**); Justifying a proposal (**J**); Defending a solution (**D**); A split between two proposals (**SP**); A split selection (**SS**)

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A	F	A	S	P	CN	P	N	CN	N	CN	<u>SE</u>															
B	CL	S	L	S	P	CH	CP	CH	N	DS	P	CH	N	P	E	<u>SE</u>										
C	F	CL	P	N	BP	BP	DF		P	CH	<u>SE</u>															
D	F	S	P	CG	A	SC	A	CH	N	P	N	CP	CH	N	RP	N	D	CH	N	D	CP	CH	N			
	CH	N	CH	CN	<u>SE</u>	CP																				

[illegible]

A	P	S	P	RP	<u>SE</u>														
B	F	S	P	<u>SE</u>	CN														
C	F	S	QP	P	J	<u>SE</u>													
D	F	A	P	N	RP	A	P	N	D	J	RP	CP	CN	<u>SE</u>	N	CH	P	N	BP

A	P	J		RP	DF		F	S	<u>SE</u>	*											
B	P	A	CH	CH	L	CG	A	<u>SE</u>	*												
C	P	<u>SE</u>	QP	N	RP	N	A	L	*												
D	<u>SE</u>	A	N	J	N	D	CH	CP	N	CN	P	N	RP	CP	BP	RP	CP	J	N	CN	*

A	F	A	P	P	J	<u>SE</u>	*			
B	F	P	S	P	CH	<u>SE</u>	*			
C	QP	CH	<u>SE</u>	DF		CH	*			
D	S	P	CI	F	CL	S	P	CN	<u>SE</u>	*

- Direct reference to the designed materials (**light grey**):
Focusing the task (F); self correction of misread word (SC); clarification of unknown word (C); search text for information (S); listing the cards (L); Checking the fit of a card by inserting it into the text (CH); Checking cards one after the other in a list (CL); Confirming an answer by quoting a fragment of the text; Citing sections of the text (CI)
- Statement of fact (**dark grey**):
Proposing a card as a solution (P); A proposal that is ignored (BP); A repeated proposal (RP); A counter proposal (CP); Quasi proposal (QP); Negation (N); Rejection of a proposal (R); Dismantling of a solution; Selection of a solution (SE); An a priori definition is offered (A)
- Open, contested (**red**):
Challenging a proposal (CG); Justifying a proposal (J); Defending a solution (D); A split between two proposals (SP); A split selection (SS)

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A	F	P	CG	CH	CP	<u>SE</u>									
B	F	S	CL	P	CP	SP	CH	CH	RP	RP	CN	N	J	AP	<u>SE</u>
C	F	S	P	A	<u>SE</u>										
D	P	N	RP	CH	SP	CH	RP	<u>SE</u>							

A	CL	S	P	CH	<u>SE</u>	*																	
B	S	P	SP	CI	CH	P	AP	<u>SE</u>															
C	F	S	P	CN	<u>SE</u>	*																	
D	P	J	RP	CP	CH	N	RP	RP	J	CP	CN	CP	CH	N	RP	<u>SE</u>		P	CH	CP	SP		
	CP	J	CG	CP	CI	QP	N	CH	RP	<u>SE</u>	J	*											

A	F	SP	CH	SE								
B	F	S	QP	P	CH	SE						
C	F	P	SP	S	QP	SP	N	P	CH	SE	DF	
D	P	CH	CP	CN	CP	N	RP	SP	N	J	CP	SE

A	F	S	P	<u>SE</u>	CN	*																				
B	S	P	CH	DIS	J	<u>SE</u>	*																			
C	CL	S	P	CP	CH	N	P	CH	N	CH	RP	RP	RP	CH	N	AP	P	<u>SE</u>	*							
D	P	CP	N	BP	RP	QP	CH	QP	J	RP	DS	CI	DF		P		CG	CP	CN	N	CH	CI				
	A	BP	CH	<u>SE</u>	*																					

- Direct reference to the designed materials (**light grey**):
Focusing the task (F); self correction of misread word (SC); clarification of unknown word (C); search text for information (S); listing the cards (L); Checking the fit of a card by inserting it into the text (CH); Checking cards one after the other in a list (CL); Confirming an answer by quoting a fragment of the text; Citing sections of the text (CI)
- Statement of fact (**dark grey**):
Proposing a card as a solution (P); A proposal that is ignored (BP); A repeated proposal (RP); A counter proposal (CP); Quasi proposal (QP); Negation (N); Rejection of a proposal (R); Discounting of a solution; Selection of a solution (SE); An a priori definition is offered (A)
- Open, contested (**red**):
Challenging a proposal (CG); Justifying a proposal (J); Defending a solution (D); A split between two proposals (SP); A split selection (SS)

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A	SP	CH	<u>SE</u>	*																
B	CL	S	L	P	P	RP	SP	J	N	CH	CH	CH	SP	CH	RP	J	N	AP	<u>SE</u>	*
C	CL	L	P	CH	<u>SE</u>															
D	CL	S	P		CL	S	QP	CI	CP	CN	CH	CP	SP	RP	J	RP	<u>SE</u>			

A	P	A	CH	<u>SE</u>																			
B	S	A	N	P	CG	CP	N	A	D	S	CH	CI	D	S	SP	P	N	RP	J	AP	CH	<u>SE</u>	*
C	F	<u>SE</u>		P	BP	<u>SE</u>	CH	*															
D	A	CH	<u>SE</u>	AP	A	CN	CP	N	A														

[illegible]

A	F	A	P	<u>SE</u>	*	
B	S	P	CH	RP	A	<u>SE</u> *
C	<u>SE</u>	A	*			
D	A	<u>SE</u>	CH	*		

- Direct reference to the designed materials (**light grey**):
Focusing the task (F); self correction of misread word (SC); clarification of unknown word (C); search text for information (S); listing the cards (L); Checking the fit of a card by inserting it into the text (CH); Checking cards one after the other in a list (CL); Confirming an answer by quoting a fragment of the text; Citing sections of the text (CI)
- Statement of fact (**dark grey**):
Proposing a card as a solution (P); A proposal that is ignored (BP); A repeated proposal (RP); A counter proposal (CP); Quasi proposal (QP); Negation (N); Rejection of a proposal (R); Discounting of a solution; Selection of a solution (SE); An a priori definition is offered (A)
- Open, contested (**red**):
Challenging a proposal (CG); justifying a proposal (J); Defending a solution (D); A split between two proposals (SP); A split selection (SS)

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A	F	S	BP	BP	CN	RP	<u>SE</u>																	
B	S	F	CH	P	P	N	RP	CH	SP	AP	RP	<u>SE</u>												
C	CL	S	P	N	BP	P	CH	P	N	BP	CH	<u>SE</u>												
D	CH	CH	P	CH	P	RP	P	CH	SP	RP	AP	CH	RP	CH	N	J	CH	N	J	D	RP	AP	CH	<u>SE</u>

A	P	CN	<u>SE</u>	*																				
B	A	CN	<u>SE</u>	*																				
C	F	P	S	P	P	CH	P	CH	CH	BP		F	S	RP	RP	CH	N	O	CH	SS	DF		F	E
	CH	RP	N	CH	CH	CH	S	DF		<u>SE</u>														
D	F	S	P	N	BP	P	CP	RP	RP	CH	BP	CH	N	P	S	RP	P	CH	P	CH	RP	SP	RP	CH
	RP	CH	E	<u>SE</u>	*																			

A	P	CN	<u>SE</u>	*																						
B	F	S	P	CP	BP	P	N	P	CH	CH	N	RP	RP	CH	CH	CH	DF		S	BP	CT	S	SP	N	RP	<u>SE</u>
C	<u>SE</u>	S	CN																							
D	S	P	CP	RP	CP	P	P	N	RP	N	J	SP	S	RP	RP	RP	RP	N	RP	CN	BP	RP	CH	RP	SP	RP
	CP	CP	CP	J	N	RP	SP	RP	<u>SE</u>	DF																

A	A	P	CN	<u>SE</u>	*																		
B	S	CL	N	S	P	CH	CH	CH	CH	N	RP	AP	RP	<u>SE</u>									
C	CL	S	P	N	L	P	CH	<u>SE</u>		N	<u>SE</u>												
D	CL	S	P	P	SP	QP	SC	RP	CN	J	J	CH	A	RP	RP	CH	<u>SE</u>	CP	CN	CH	J	A	AP

- Direct reference to the designed materials (**light grey**):
Focusing the task (F); self correction of misread word (SC); clarification of unknown word (C); search text for information (S); listing the cards (L); Checking the fit of a card by inserting it into the text (CH); Checking cards one after the other in a list (CL); Confirming an answer by quoting a fragment of the text; Citing sections of the text (CI)
- Statement of fact (**dark grey**):
Proposing a card as a solution (P); A proposal that is ignored (BP); A repeated proposal (RP); A counter proposal (CP); Quasi proposal (QP); Negation (N); Rejection of a proposal (R); Discounting of a solution; Selection of a solution (SE); An a priori definition is offered (A)
- Open, contested (**red**):
Challenging a proposal (CG); Justifying a proposal (J); Defending a solution (D); A split between two proposals (SP); A split selection (SS)

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Conscience

A	S	P		P	CH	F	CH	F	F	F	CH	RP	RP	SE	CP	CG	D	CG	S	D	CI	RP	SS
	RP	J	CH	CG	J	N	CI	RP	RP	RP	SE												
B	F	F	S	S	S	S	P	CP	RP	CH	N	CH	AP	AP	SE								
C	CL	F	CL	CL	P	N	P	N	P	P	N	CP	N	P	RP	J	CH	BP	P	N	P		
	S	N	BP	P	RP	A	A	A	SE	*													
D	P	F	S	F	F	P	S	RP	CH	N	CP	N	J	CH	CG	CH	D	CH	D	CH	CP	N	S
	BP	S	P	N	SE	BP	CG	CH	N	CL	CL	P	N	CH	S	F							

In vain

A	S	P	CH	J	N	A	SE		CP		F	RP	CH	N	N	D	CG									
B	F	S	CL	P	N	S	AP	P	CH	AP	SE	*														
C	F	A	P	N	CI	P	S	RP	S	RP	S	RP	CH	P	N	RP	N	BP	BP	P	P			CH	SE	N
	BP	S	QP	SE	J	*																				
D	S	P	BP	CH	BP	P	N	RP	N	S	CL	BP	O	RP	J	S	N	D	S	CN	SE	*				

Distraction

A	F	A	BP	S	A		F	S		F		S	P	SE	*									
B	S	P	CH	AP	SE	*																		
C	F	A		F	P	N	P	SE	CG	CH	CH		F	A	S	RP	CN	CL	CN	SE	*			
D	S	A	CH	N	P	CP	CH	CH	SP	N	A	J	N	J	RP	SE	CH	*						

Eureka

A	P	N	A	SE	A	*																		
B	S	CL	P	CH	SE	*																		
C	CL	P	CL	SE																				
D	P	J	CN	SE	CP	N	A	*																

Key

- Direct reference to the designed materials (light grey):
Focusing the task (F); self correction of misread word (SC); clarification of unknown word (C); search text for information (S); listing the cards (L); Checking the fit of a card by inserting it into the text (CH); Checking cards one after the other in a list (CL); Confirming an answer by quoting a fragment of the text; Citing sections of the text (CI)
- Statement of fact (dark grey):
Proposing a card as a solution (P); A proposal that is ignored (BP); A repeated proposal (RP); A counter proposal (CP); Quasi proposal (QP); Negation (N); Rejection of a proposal (R); Discounting of a solution; Selection of a solution (SE); An a priori definition is offered (A)
- Open, contested (red):
Challenging a proposal (CG); justifying a proposal (J); Defending a solution (D); A split between two proposals (SP); A split selection (SS)

Figure 79 Episode summaries for Week 4 Day 2

Trepidation

A	CL	S	QP	P	CH	N	SP	CH	S	RP	J	P	N	SE	*	
B	S	P	CH	AP	SE	*										
C	SE															
D	F	P	CH	J	QP	J	CP	CN	P	N	RP	RP	CH	SE	N	*

Emaciated

A	S	F	S	CI	F	P	N	D	RP	SE	P	N	P	N	BP	BP									
B	S	CL	L	N	P	CG	CH	SE	*																
C	F	SE																							
D	S	CT	N	P	N	D	CG	J	CP	N	J	N	CH	P	N	D	BP	CP	N	P	N	CG	N	D	N
	J	RP	J	CH	D	CH	D	N	D	CH	CI	N	SE	RP		F	RP	CH	N						

Deteriorated

A	<u>SE</u>	CN															
B	S	P	<u>SE</u>	*													
C	P		CL	P	CH	<u>SE</u>	AP	P		<u>SE</u>	BP	BP	CH	<u>SE</u>	*		
D	S	P	<u>SE</u>		N	P	N	D	CP	J	CN	<u>SE</u>	N	CN	RP	CP	*

Nonchalantly

A	CL	S	P	N	P	SE	*									
B	P	CH	CP	CH	SP	P	AP	SE	*							
C	P	BP		SE												
D	S	S	S	SP	P	N	J	CH	CL	SE	CN	RP				

Key

- Direct reference to the designed materials (**light grey**):
Focusing the task (F); self correction of misread word (SC); clarification of unknown word (C); search text for information (S); listing the cards (L); Checking the fit of a card by inserting it into the text (CH); Checking cards one after the other in a list (CL); Confirming an answer by quoting a fragment of the text; Citing sections of the text (CI)
- Statement of fact (**dark grey**):
Proposing a card as a solution (P); A proposal that is ignored (BP); A repeated proposal (RP); A counter proposal (CP); Quasi proposal (QP); Negation (N); Rejection of a proposal (R); Discounting of a solution; Selection of a solution (SE); An a priori definition is offered (A)
- Open, contested (**red**):
Challenging a proposal (CG); Justifying a proposal (J); Defending a solution (D); A split between two proposals (SP); A split selection (SS)

Figure 80 Episode summaries for Week 4 Day 3

A	<u>SE</u>	*																			
B	F	S	A	<u>SE</u>	AP	*															
C	S	QP	BP	CH	BP	QP	RP	BP	<u>SE</u>	BP	BP	BP	P	N							
D	F	S	P	A	RP	J	<u>SE</u>	CH	CI	CG	P	BP	BP	RP	J	N	RP	<u>SE</u>	N		<u>SE</u>

A	F	S	BP	P	N	P	<u>SE</u>															
B	F	P	CH	<u>SE</u>	*																	
C	F	BP	CP	<u>SE</u>	*																	
D	<u>SE</u>	N	P	N		S	BP		F	S	RP	CP	RP	RP	RP	J	BP	P	N	J	<u>SE</u>	A

[illegible]

A		CL	<u>SE</u>	CG	CN	*					
B	P	CL	CH	AP	<u>SE</u>	*					
C	S	BP	BP		F	CL	CH	<u>SE</u>	*		
D	P	CH	RP	<u>SE</u>	*						

- Direct reference to the designed materials (**light grey**):
Focusing the task (**F**); self correction of misread word (**SC**); clarification of unknown word (**C**); search text for information (**S**); listing the cards (**L**); Checking the fit of a card by inserting it into the text (**CH**); Checking cards one after the other in a list (**CL**); Confirming an answer by quoting a fragment of the text; Citing sections of the text (**CI**)
- Statement of fact (**dark grey**):
Proposing a card as a solution (**P**); A proposal that is ignored (**BP**); A repeated proposal (**RP**); A counter proposal (**CP**); Quasi proposal (**QP**); Negation (**N**); Rejection of a proposal (**R**); Discounting of a solution; Selection of a solution (**SE**); An a priori definition is offered (**A**)
- Open, contested (**red**):
Challenging a proposal (**CG**); Justifying a proposal (**J**); Defending a solution (**D**); A split between two proposals (**SP**); A split selection (**SS**)

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14.3 Case selection

14.3.1 Rationale

Two types of case were prioritised for analysis.

First, cases of **distributed enactment** of the teacher's dilemma were sought. This is where several groups simultaneously enacted the dilemma as envisioned by the teacher/designer (coded green, blue and purple). These cases are important because they mark (rare) instances where the teacher/designer was successful in planning an interpretive dilemma that would be recognised by most groups. There were no instances where all four groups simultaneously enacted the teacher's dilemma. Three groups did this on three occasions- *squall* (3.1), *smartly* (3.3), *conscience* (4.2). **Squall** and **conscience** contain the longest sequences and bracket the prototyping phase, so these were selected for transcription.

The second type of case sought was **isolated enactment**. This is where a single group are alone in enacting the teacher's dilemma. These cases are important because they potentially allow the distinctiveness of each groups' institutional code to be assessed. They also ensure that instances where the design 'failed' are also included in the analysis. There are only four instances out of a total of thirty four where **Group A** enact the teacher's dilemma (*squall* (3.1), *smartly* (3.3), *distractedly* (3.4) and *conscience* (4.2)) and none of these were isolated instances.

There are three instances of an isolated enactment by **Group B** (*pristine* (3.2), *canned* (4.1), *nonchalantly* (4.3)). **Pristine** was selected for transcription because it occurs early in the prototyping phase and includes examples of justifications that accompany a split proposal.

As with Group A, enactment of the teacher's dilemma by **Group C** is relatively rare with 8 out of a possible 34 instances recorded (*solemn* (3.1), *hopper-full* (3.3), *stifling* (3.3), *shivering* (3.4), *sinister* (4.1), *conscience* (4.2), *distraction* (4.2), *deteriorated* (4.3)). Of these, only **distraction** was an isolated enactment and so this was selected for transcription.

Group D was by far the most prolific in enacting the teacher's dilemma, doing so on 21 out of 34 occasions. There are 9 instances where these enactments were isolated (*distorting* (3.1), *particular* (3.2), *ton of bricks* (3.2), *obsessively* (3.2), *gathering* (4.1), *trepidation* (4.3), *livid* (4.4), *pandemonium* (4.4), *pulverised* (4.4)). Of these **pulverised** was the longest exchange, containing both a split proposal and a split selection, and so was selected for transcription.

14.3.2 Selected cases

Squall

A	F	L	SP	P	CH	RP	CP	SE	RP	CG	CH	J	CH	CG	J	CH	N	CP	SE	RP	CN	*	
B	S	L	P	E	DS	RP	P	N	CP	J	SE												
C	F	P	CH	CP	N	J	S	P	CH	CH	P	CH	RP	CH	P	SE	CN						
D	F	CL	S	P	N	CP	CG	CI	A	SE	J	CH	CH	CL	CH	J	N	P	CN	RP	N	RP	SE

Conscience

A	S	P		P	CH	F	CH	F	F	F	CH	RP	RP	SE	CP	CG	D	CG	S	D	CI	RP	SS
B	RP	J	CH	CG	J	N	CI	RP	RP	RP	SE												
C	F	F	S	S	S	S	P	CP	RP	CH	N	CH	AP	AP	SE								
D	CL	F	CL	CL	P	N	P	N	P	P	N	CP	N	P	RP	J	CH	BP	P	N	P		
E	S	N	BP	P	RP	A	A	A	SE	*													
F	P	F	S	F	F	P	S	RP	CH	N	CP	N	J	CH	CG	CH	D	CH	D	CH	CP	N	S
G	BP	S	P	N	SE	BP	CG	CH	N	CL	CL	P	N	CH	S	F							

Figure 82 Selected cases of distributed enactment of teacher's dilemma.

Pristine

A	CH	F	SP	P	SE	*																
B	S	CL	P	CP	CN	RP	SP	J	RP	CH	RP	CN	SE	J								
C	CL	QP	S	P	CP	CH	N	BP	P	CH	CN	SE										
D	P		CN	SE																		

Distraction

A	F	A	BP	S	A		F	S		F	S	P	SE	*								
B	S	P	CH	AP	SE	*																
C	F	A		F	P	N	P	SE	CG	CH	CH		F	A	S	RP	CN	CL	CN	SE	*	
D	S	A	CH	N	P	CP	CH	CH	SP	N	A	J	N	J	RP	SE	CH	*				

Pulverised

A	SP	CN	CI	SE	CH	CI	N	J	CI	D														
	S	BP	CP	CH	RP	SE	*																	
C	CL	CL	CL	P	SE	CL	RP																	
D	BP	N	CP	CI	CN	AP	CP	RP	CP	CH	CH	CP	CH	CN	CP	CN	N	CH	SP	BP	E	DF	E	SS
		F	E	RP	E	RP	E	SE	CP	N	CP	N	AP	SE	RP	CG								

Figure 83 Selected cases of isolated enactment of teacher's dilemma

Chapter 15 Retrospective analysis of Group A's interaction with the design framework

Retrospective analysis of prototyping data from Groups A and D was executed in two phases. The first phase used transcripts of selected cases to establish the *textual conditions* present in a given micro-ecology at a given point in time. To this end a narrative was derived from each transcript that was then summarised in schematic form to show how *casting*, *scripting* and *staging* varied across the three stages of microgenetic analysis (Figure 84, below). This allowed status values to be inferred- *red* indicating values oriented to opinions and abstract ideas, *black* indicating values oriented to concrete relations between objects and objects and people. It should be noted that the descriptors used to operationalise the 'scripting' variable are different from those used in the macro-coding of turns for case selection. This reflects fresh interpretations afforded by the multiple viewings and fine grained analysis that followed case selection.

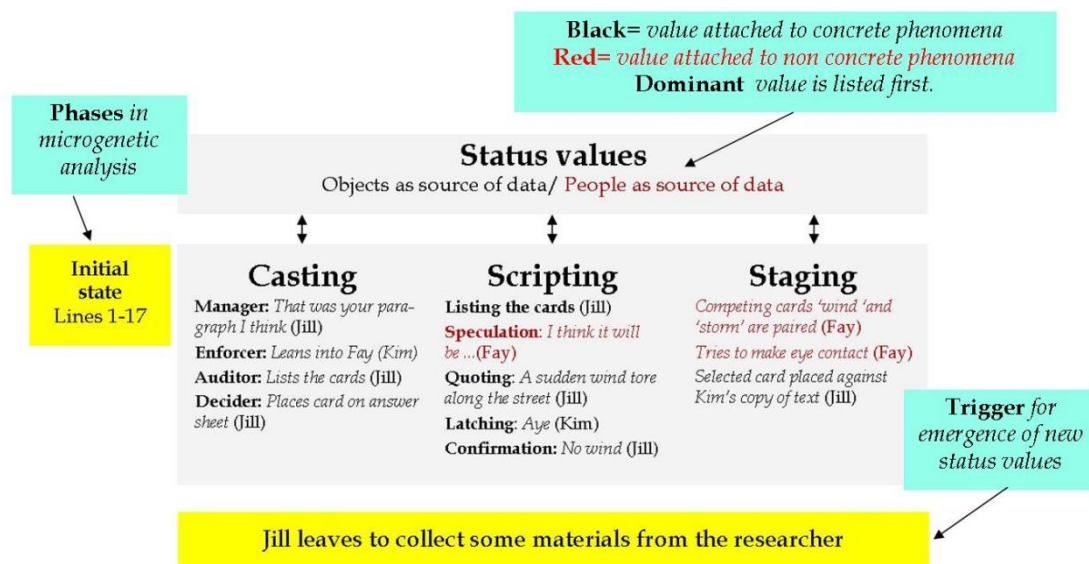


Figure 84 Schematic representing textual conditions in the micro-ecology

The second phase considered the more distal ethnographic perspectives afforded by transcripts of meetings and interviews, field notes, and video logs. These were used to contextualise the micro-analysis in order that the *relational* and *structural conditions* of the dilemmatic space could be specified.

15.1 Analysis of sampled cases

15.1.1 Week 3 day 1: Squall (Distributed enactment in Groups A, B, D)

Lines 1-17 Jill manages Fay's attempt to solve 'squall'

Time		Physical		Vocal			Artefactual	
1	3.02	Kim	Leans into Fay	Kim	F	Squall. You do that one Fay! Heh heh!	Fay Kim Jill	Looks at cards Both look at Kim's copy of the text
2	3.03	Kim	Leans further in and laughs	Jill		That was your paragraph I think.	Fay	Looks at her copy of the text.
3	3.05	Kim	Kim moves away from Fay	Kim		Yeah	Fay	Looks across at cards
4	3.07	Kim Fay	Looks at Fay Props her head on her left hand	Fay		I think it will be	Fay Jill	Looks across at the cards Scans the text
5	3.10			Jill	L	Blocking, spoiling	Jill Kim	Looks at cards Glances at cards
6	3.12			Fay	SP	Wind or storm	All	Look at cards
7	3.15			Jill	P	Where's wind?		
8	3.16			Fay		There.	Fay	Points to the card marked wind
9	3.18	Fay	Looks across at Jill and Kim	Jill	CH	A sudden wind tore along the street	Jill Kim	Holds card against Kim's text and reads Follows Jill's reading of the text
10	3.19			Fay	RP	[A sudden storm]	Fay	Looks at her copy of the text
11	3.19			Jill	CP	[Wind=		
12	3.20			Kim	SE	=Aye	Jill	Places 'wind' on the answer sheet
13	3.21			Jill	RP	No. Wind.	Fay	Looks across at answer sheet
14	3.22			Kim		Right! This one's <u>mine</u> !=	Kim Others	Points to her copy of the text Look at where Kim is pointing
15	3.23			Jill		=No it isn't=	Kim	Stops pointing at her text.
16	3.24			Kim		=No. It's yours.	Jill	Turns to look at her own copy of the text
17	3.25			Jill		Distorting	Kim & Fay	Turn to look at their own copies of the text
Jill solves distorting (blocking) and then Kim solves solemn (soaking). Kim then points out that they have no materials to make the story reconstruction with. Jill leaves to collect these materials from the researcher. The transcript resumes at this point.								

Kim initiates proceedings by locating *squall* in the text and allocating it to Fay, her laughter probably indicating relief at not having to solve this word herself. Jill endorses Kim's instruction, pointing out that Fay read this paragraph aloud and so it is '*yours*' (Line 2). Without making eye contact, Kim leans into Fay, physically nudging her to start.

Fay's initial split proposal of *wind* or *storm* is presented as a personal opinion- *I think it will be...* (Line 4) rather than a kneejerk reaction to the

materials, as in Jill's random listing of the cards- *Blocking, spoiling* (Line 5). Jill, however, nips Fay's interpretive dilemma in the bud by taking over management of the decision making process at this point. Her strategy is to steer the discussion away from opinion and towards a limited range of concrete evidence. Jill first gathers her preferred card *wind* (Line 7) and then holds it against Kim's copy of the text which is positioned in the middle of the table (Line 9). She then inserts *wind* into a fragment of the target sentence- *A sudden wind tore along the street* in order to publically confirm its validity. Fay, meanwhile, tries to make eye contact with Kim and Jill and repeats her alternative proposal *storm*, inserting it into an even shorter sentence fragment – *A sudden storm* (Line 10). However, Jill silences Fay by talking over her, with Kim's latched reply- *Aye*- serving to outvote Fay and also shut down any further comment. In effect Jill, aided by Kim, minimises Fay's split proposal by acting as if Fay's second option *storm* has never been mentioned. Jill uses a hushed tone to finalise her decision- *No. Wind* (Line 13), lending the illusion that there has been no uncertainty and, therefore, no disagreement. Kim declares the matter closed by focusing the group's attention on the next agenda item, *distorting*, which she claims for herself- *Right, this one's mine!* (Line 14). In fact it was Jill, not Kim, who had previously read this paragraph aloud and Jill rejects her claim- *No it isn't* (Line 15). Kim immediately backs down and concedes- *No. It's yours* (Line 16).

Lines 18-30 Fay challenges Jill and reactivates her proposal of 'storm'

After the group have solved all five words and placed the relevant cards on the answer sheet, Jill leaves to collect the materials needed for the next task. Jill's departure creates the opportunity for Fay to reopen the dilemma but, instead, Fay now mimics the absolutist position of her colleagues. She doesn't reinstate the equal claim of *storm* but, rather, seeks to establish that Jill's preferred candidate *wind* is unequivocally wrong- *Wind doesn't make sense you know* (Line 18). This represents a shift from her previous dilemmatic position- *Wind or Storm* (Line 6) and mimics Jill's determination that there can only be one correct solution. Kim's frowns at this move (Lines 22 & 30) but proceeds to

manage Fay's counter proposal *storm* in much the same way as Jill did with *wind*. First she locates the target sentence, but in Fay's copy of the text not her own (Line 23). This suggests she sees the physical location of the problem here rather than in each or all of the texts. Kim removes *wind* from the answer sheet, retrieves *storm* and holds *storm* against Fay's copy of the text (Line 28). The removal of *wind* is interesting. It suggests that, for Kim at least, solutions should be considered one at a time, not simultaneously. Kim then inserts *storm* into a fragment of the target sentence- *A sudden storm tore along the street* (Line 29). As she does so Fay reinforces her preferred candidate, but without elaboration- *Storm makes more sense* (Line 29). This is possibly because, given the small fragments of text that are being considered, it is hard to make a convincing case for or against either proposal.

Time		Physical		Vocal			Artefactual	
18	3.58	Kim Leans towards Fay and starts to whisper something		Fay	CG	Wind doesn't make sense you know.		
19	3.59			Kim		Laughs		
20	4.02			Fay	CH	Look. A sudden wind tore along the street.	Fay	Points to her copy of the text whilst Kim looks on
21	4.07			Fay	J	It doesn't make any sense	Both	Look at the answer sheet
22	4.08	Kim	Frowns	Kim		What?		
23	4.10	Jill Fay & Kim	Returns Turn to face her	Fay	CH	A sudden wind	Kim	Reads from Fay's copy of the text
24	4.12	Jill	Glances at camera as she sits down	Jill		He's coming back in a minute. (1.0) So do you actually think it's that?	Others	Look at answer sheet
25	4.16						Kim & Fay	Glance at the answer sheet
26	4.17			Kim		What? For squall? =		
27	4.18			Fay	CG	= I don't know about wind. (2.0)		
28	4.22				J	Storm makes more sense.	Kim	Discards wind and snatches up storm and holds it against Fay's copy of the text.
29	4.23			Kim	CH	A sudden storm tore along the sheet.	Jill	Leans across the table so she can see Fay' text.
30	4.26	Kim	Frowns					

Line 31-37 Jill reasserts her authority

Jill, who returned at Line 23 and has witnessed the above exchange, repeats her earlier negation of ‘storm’- *No. Wind* (Lines 31-2). Accordingly, Kim acting as Jill’s deputy reinstates *wind* (Line 33). Later, after the researcher has delivered the materials, Fay has a change of heart and supports *wind*, inserting it into a longer fragment of the target sentence- *A wind tore along the street and shook the tops of the branches* (Line 35)- this despite the fact that *storm* would serve equally well as a substitute for *squall*.

Time		Physical		Vocal			Artefactual	
31	4.28			Jill	N	No		
32	4.29	Jill	Leans back		CP	Wind		
33	4.30				SE		Kim	Discards ‘storm’ and replaces ‘wind’ on the answer sheet.
Researcher returns with materials that the group have requested								
34	4.52			Fay	RP	Wind actually does makes sense		
35	4.54				CN	A wind tore along the street and shook the tops of the branches		
36	4.58	Kim	Leans over and whispers	Kim		{ }		
37	5.00	Fay	Smiles	Fay		Just tell her.		

Figure 85, overleaf, summarises the three phases by which the micro-ecology evolved in the course of this episode. The initial state is one where objects are valued over opinions as a credible source of data. Latching of comments and monopoly over the manipulation of the cards is used to negate Fay’s conflicted and speculative comments and close down the discussion. However, Jill’s departure triggers a shift where the value of personal opinion is reasserted- ‘*It doesn’t make sense*’. Kim acts as Jill’s adjutant while Jill is away but cannot come to a decision. The final state is achieved only on Jill’s return. She stresses time as a key constraint on the group’s deliberations- *He’s coming back in a minute*- and, accordingly, the script reverts to negations and statements as a quick decision is forced through.

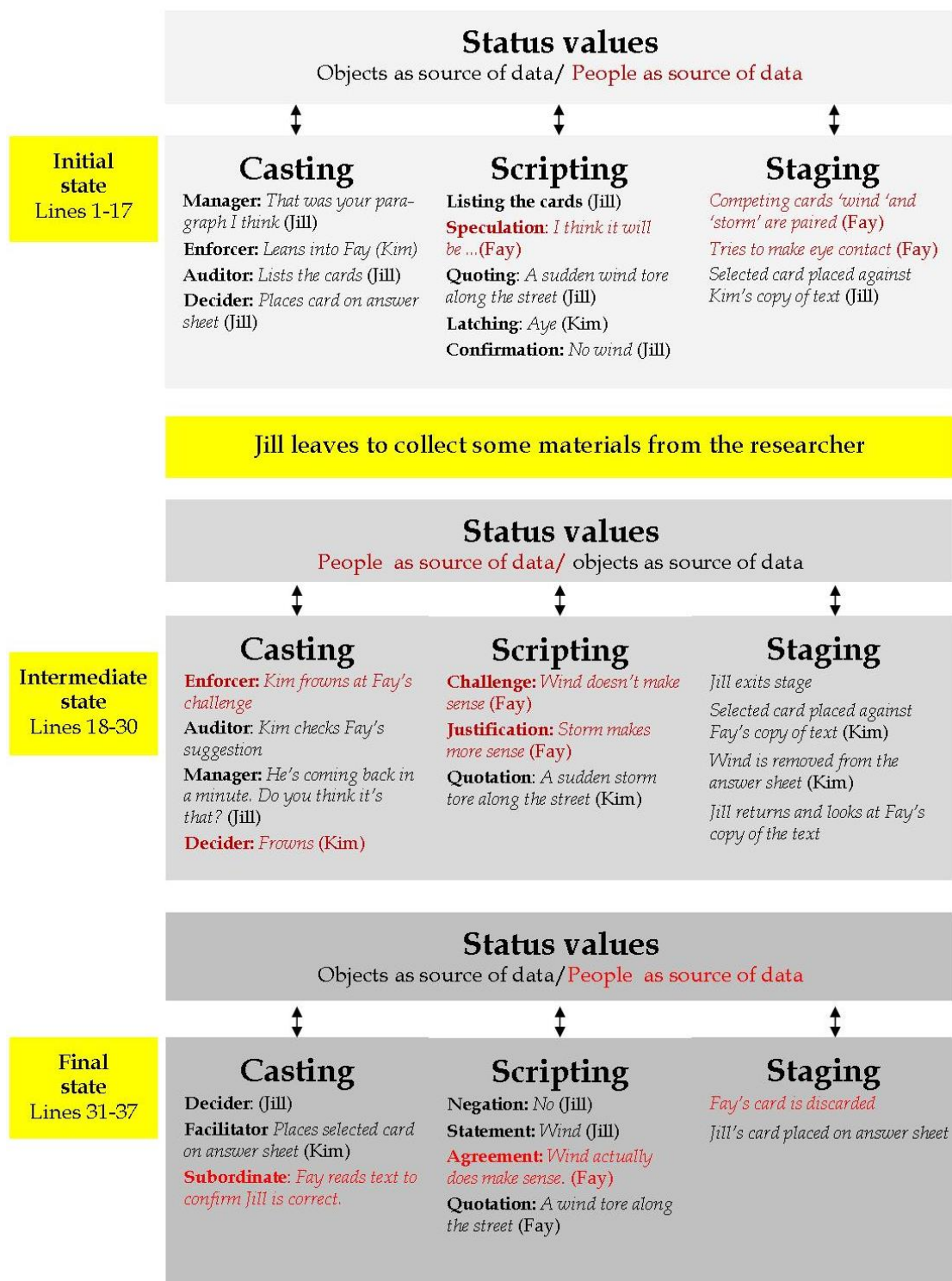


Figure 85 Microgenesis of interpretive dilemma- *Squall*, Group A.

15.1.2 Week 3 day 2: *Pristine (Isolated enactment in Group B)*

Time		Physical		Vocal			Artefactual	
1	3.12			Betty	CH	His shirt collars were always <u>white</u> .	Fay	Standing so she can see the cards
2		Jill Betty	Frowns at Betty Winces					
3	3.18			Fay	F	Where's that?	Fay	Looks for target sentence in her copy of the text, still standing
4				Jill		Here	Jill	Points to line in her text
5	3.22			Betty	SP	Or clean		
6							All	Look at the cards
7	3.26			Fay	P	Put clean		
8	3.28				SE			

According to the group's turn taking protocol this word 'belongs' to Jill. However, Betty starts proceedings by inserting a proposal- *white*- into a fragment of the target sentence (Line 1). Betty's usurping of her role is greeted with a frown from Jill (Line 2). Betty's response is to try to negotiate this change in the rules by making eye contact and wincing apologetically. At this point Fay takes over, managing Betty's proposal in much the same way as Jill had done with her own split proposal for *squall*. Fay first asks Jill to point to the physical location of the target sentence- *Where's that?* (Line 3) and then scans the cards (Line 6). In the meantime, Betty identifies a competing candidate *clean* to which the group make no initial response. Fay, mirroring Jill's managerial approach, curtails any further deliberation with a unilateral decision- *Put clean* (Line 7) which Betty then does (Line 8).

Figure 86, overleaf, summarises the evolution of the micro-ecology during this episode. The initial stage is one where the notion that paragraphs in the text are 'owned' by individuals is inadvertently violated by Betty. Jill, as manager, frowns as a show of disapproval and Betty apologises by wincing. This, however, confronts the group with a problem in that Betty's suggestion of 'white' makes sense, but cannot be ratified because she broke the rules. Fay's intervention triggers a change of focus whereby relations between neutral objects (text and cards) are made dominant. This is possibly an attempt to depersonalise the discussion and release the tension between Jill and Betty.

Here the script is about the *location* of data (safe), not what the data *means* (hazardous), thus allowing Jill to facilitate and still maintain her pride.

However, Betty again causes upset, this time by pointing out that there are two valid solutions to the problem. Acknowledging this dilemma is likely to lead to more interpersonal tensions and so Fay makes an executive decision to quickly finalise the selection of 'clean'. Aware that something is amiss, Betty nonetheless complies with a decision she knows to be peremptory. Privately, however, the tension remains unresolved, as is demonstrated by the re-emergence of this dilemma in the subsequent making task (see 15.2.2).

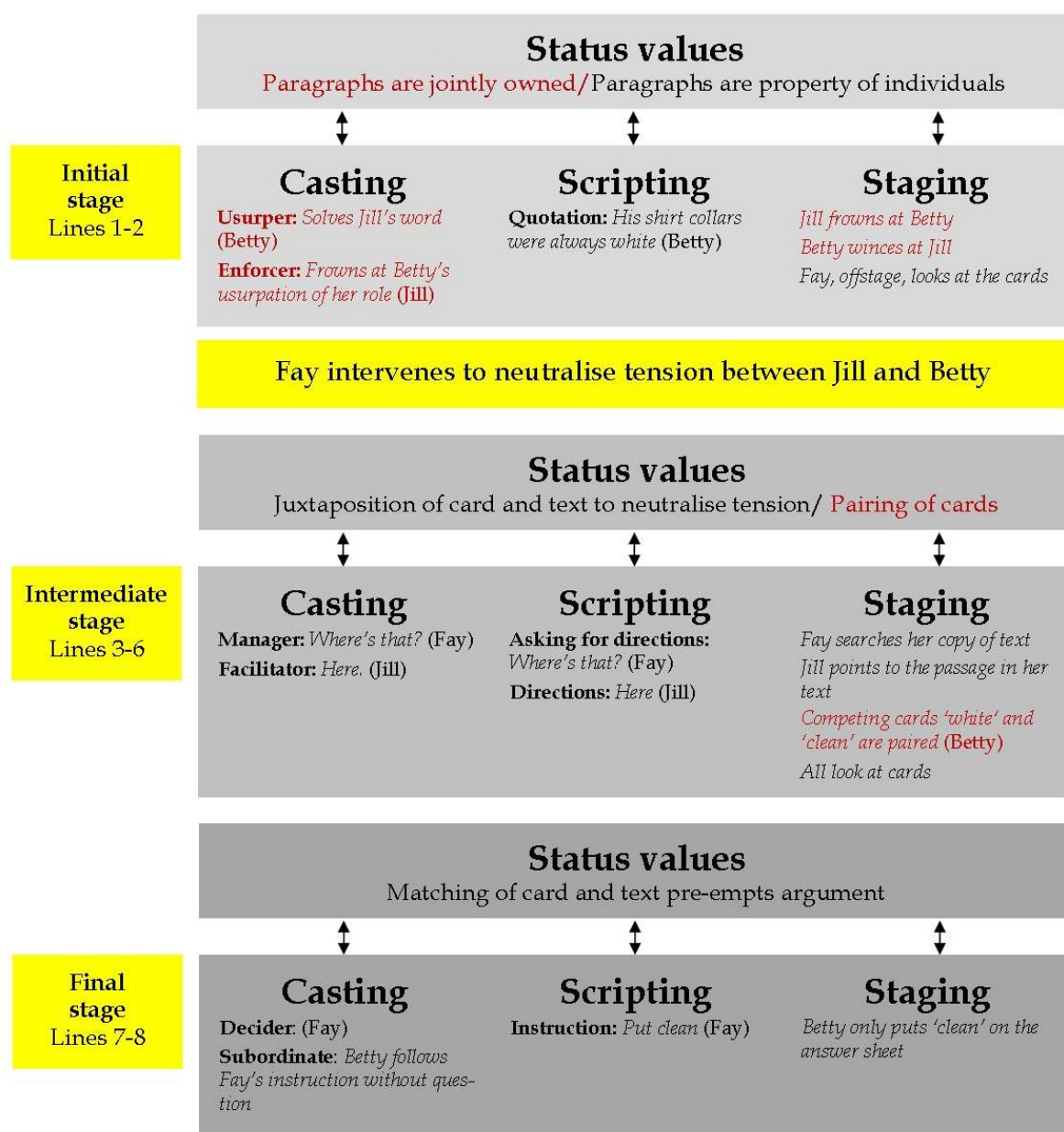


Figure 86 Microgenesis of interpretive dilemma- *Pristine*, Group A

15.1.3 Week 4 day 2: Conscience (Distributed enactment in Groups A,C,D)

Time		Physical		Vocal			Artefactual	
1	3.11			Jill	S	Right(1.0) [I struggled	Jill	Reads from text
2	3.14	All	Look across at Group C who are having a noisy argument	Sam		[NO MAN!	Jill	Reaches for the answer sheet for 'conscience'
3	3.16	Jill	Looks across at group C and turns to Kim	Betty	P	It could be (2.0) [seatbelt	Betty	Looks at text and then at cards
4	3.18	Jill	Makes eye contact with Kim	Jill		[]		
5	3.28	Fay	Leans across to see the cards				Jill Betty Fay	Shuffles and orders papers Continues to scan her text Strains to see the cards
6	3.29						Fay	Picks up 'Ouch and places it on the answer sheet for 'Eureka' which is in front of her
7	3.31	J&K	Turn towards Fay.	Jill		How do you know that one's yours?		
Group work on Eureka and unsuccessfully try to resolve distraction, then return to 'conscience'.								

Lines 1-7 A false start

Jill attempts to focus the attention of the group on the sentence containing the target word- *Right! I struggled* (Line 1) and begins to gather together necessary materials (Line 2). At this point, however, all are distracted by Sam's shouting in Group C and so the group's joint focus is broken.

- Jill and Kim engage in a private conversation (Lines 3&4);
- Betty, unnoticed, proposes *seatbelt* as a match for *conscience* (Line 3);
- Fay searches the cards for a solution to 'her' word *Eureka* (Lines 5&6)

Jill and Kim are alerted by Fay's unilateral selection of *Ouch* as a match for *Eureka* and start to police her activities- *How do you know that one's yours?* (Line 7). *Conscience* temporarily drops from the agenda.

Lines 8-21 Jill coheres the group and expedites its decision

The group's attention remains fragmented when *conscience* is returned to. At this juncture the group are engaged in solving Kim's word *distraction* (Lines 8 & 9), but Betty unilaterally switches the agenda back to *conscience* with her repeat proposal of *seatbelt* (Lines 10 & 11). Betty then tries to placate Kim following Kim's complaint at this breach of protocol (see 15.1.4). Finally Jill decides the issue in Betty's favour- *You are on the first one man!* (Line 16).

Kim defers to Jill, smiles to save face and makes eye contact with Betty (Lines 17&18). Jill then proceeds to expedite Betty's proposal *seatbelt* by inserting it into a fragment of the target sentence and endorsing its suitability (Lines 18&19). Kim supports Jill's decision, at which Betty places the card on the answer sheet and the agenda moves to the next item- *Number two* (Line 21).

Time		Physical		Vocal			Artefactual	
8	4.19	Jill Fay	Nervously bang her fist against her mouth as she speaks Cranes her neck to see what is happening	Jill		It's like (0.5) You get distracted		
9	4.21	Kim	Looks across at Betty	Kim		Kim I know what it means but what one is it?	Fay	Leans even further to look over Kim's shoulder so she can see the cards
10	4.25			Betty	P	Betty Like (.) it could be seatbelt		
11	4.30				CH	I struggled with my seatbelt (1.0) as we sang happy songs and told jokes.		
12	4.33			Kim	F	Where?		
13	4.35	Kim	Slumps, resting her chin on her chin on her hand.	Betty	CH	I struggled with my seatbelt as we sang happy songs and told jokes.	All	Look at text
14	4.40	Kim	Frowns	Kim	F	But on number three (1.0) But we had our (0.5) It was a welcome distraction FROM MY TROUBLES!	Kim	Points to text emphatically as she reads each word
15	4.48	Betty	Makes eye contact with Kim and smiles.	Betty	F	We're not on that one. We're on this one.	Betty	Points to her copy of the text
16	4.52	Jill	Sits back	Jill	F	You are on the <u>first</u> one man!	Jill	Holding her answer sheet in front of her she scans the cards. Slaps her copy of the text
17	4.55	Kim	Smiles to herself	Kim		Oh. (...) I thought we were here	Kim	Points to text
18	5.01	Kim	Leans across to look at Betty	Jill	CH	With my seatbelt as we sang happy songs	Betty	Turns to look at Jill's copy of the text
19	5.07				RP	Could be seatbelt		
20	5.10			Kim	RP	It could be		
21	5.11			Jill	SE	Number two		

Lines 22-34 Jill's attempt at dilemma management

Before Jill can move the group to the next word on the agenda, Betty spots a card- *tent* -that competes with her selected proposal *seatbelt* which Jill has just endorsed. Betty bolsters this counter proposal by inserting it into a fragment of the target sentence *Or struggle with my tent as we sang happy songs and told jokes* (Line 22).

Time		Physical		Vocal			Artefactual	
22	5.12			Betty	CP	Or I struggle with my (2.0) tent as we sang happy songs and told jokes.		
23	5.17			Jill	CG	That one's not there. Tent's not there.	Jill	Motions with hand towards the cards
24	5.18			Betty	D	Betty Yeah! Tent	Betty	Points to text.
25	5.21			Jill	CG	Were they in the car though?		
26	5.24	F & K	Watch Jill as she reads		S	I struggled with my (2.0) tent as we	Jill	Points to text with finger as she reads
27	5.28	Jill	Holds chin and looks into middle distance		D	They <u>were</u> on holiday.		
28	5.32			Kim	CI	Yeah! A CAMP!	Kim	Reaches across and points to the word on Jill's copy of the text.
29	5.35	Jill	Nods and turns to Betty	Jill	RP	It <u>must</u> be tent then		
30	5.39				SS	If we keep them both the::::re right	Jill	Puts 'tent' on answer sheet alongside 'seatbelt' then points to both cards
31	5.41					No (.) We cannot.	Jill Betty	Doesn't remove card Puts hand on answer sheet
32	5.45	Jill	Looks across at Fay and tries to make eye contact		RP	Shall I just put tent? (.) And then		
33	5.51	Jill	Looks into the middle distance as she speaks		J	If you're on a camp you need a tent with a camp.	Jill	Absent minded taps 'tent' with finger then looks at text
34		Jill	Looks at Betty	Betty	CH	I struggled with my tent as we sang happy songs and told jokes.	Betty	Reads from text. The others follow on their texts

Jill's initial response is to deny the card exists- *That one's not there. Tent's not there* (Line 23). When Betty proves to her that this card does indeed exist, Jill changes tack and distorts the story in a further attempt to negate Betty's split proposal- *Were they in the car though?* (Line 25). However, in scanning her copy of the text for evidence in support of this challenge Jill, instead, finds direct references to *holidays* (Line 27). Kim also points to the word *camp* in Jill's copy of the text (Line 28). What ensues is Jill's attempt to manage the interpretive dilemma that these moves produce.

Persuaded by the concrete evidence in the text that corresponds to *tent*, Jill initially decides this, and not seatbelt, is now the exclusive match for *conscience*- *It must be tent then* (Line 29). However, finding *seatbelt* on the answer sheet reminds Jill of its equal claim as a solution and she hesitantly suggests a change of the rules, allowing two cards to sit on the answer sheet at the same time- *If we keep them both the::::re right* (Line 30). As soon as she makes this decision, she reinstates the rules and prohibits it- *No. We cannot* (Line 31). She then suggests

restoring the exclusivity of *tent*- *Shall I just put tent?*, but does not remove *seatbelt* from the answer sheet.

Significantly Jill stares into the middle distance, not at her text, when mulling this over and also seeks eye contact with Betty and Fay (Lines 29, 32, 34). Also, Jill refers to a universal concept and not concrete evidence from the text in her attempt to resolve the matter- *If you're on a camp you need a tent with a camp* (Line 33). At the same time, however, Jill clings to her material props, tapping *tent* with her pencil and then looking at her copy of the text. Betty encourages her in this by, again, inserting *tent* into a fragment of the target sentence and reading it aloud (Line 34).

Lines 35-43 Fay's failed challenge

Time		Physical		Vocal		Artefactual	
35	6.02	Fay	Leans back and attempts to make eye contact with Betty.	Jill	()	Fay	Points to her copy of the text
36	6.05	Jill	Looks at Fay	Fay	CG They're already <u>off</u> the coach when it says that cos	Fay	Points to her copy of the text
37	6.06	Jill Fay	Stands up and leans back to she can see Fay and tries to make eye contact Looks at Betty	J	Cos they're getting their computer games and their own pets		
38	6.12			Betty	N No	Betty	Reads from text
39	6.13	Jill	Makes eye contact with Kim		CI It says (2.0) It says away from our homes, our computer games and our pets		
40	6.21			Jill	RP Right! (0.2) I think it's tent.		
41	6.22			Betty	RP Betty Uh huh!=		
42	6.24	Fay	Nods but says nothing	Kim	RP Same		
43	6.25			Jill	SE	Jill	Removes seatbelt

Fay has been a spectator throughout the above exchanges and has yet to say anything. She is physically marginalised and strains to be noticed and to see what the others are doing (Lines 5 & 9). Hence, when Fay tries to attract the attention of her peers she struggles to make eye contact and points to a copy of the text that is not in their field of vision (Line 35). Jill has to stand as she tries to make eye contact with Fay (Line 37), but it is to Betty, not Jill, that Fay addresses her challenge.



Jill and Kim exchange glances as Betty assumes temporary leadership of the task (Line 39). Betty easily negates Fay's challenge using direct quotes from the text. With Fay's challenge now discredited, Jill retakes the initiative, expediting the selection of her preferred candidate- *Right! I think it's tent* (Line 40), which is endorsed by the latched comments of Betty and Kim. Fay just nods (Line 42).



The chaotic nature of the performance in this episode can be traced to its origin in a false start. This is caused when attention to objects on stage is diverted to Sam's angry outburst offstage. His behaviour is in stark contrast to the emotional neutrality of the girls' performances and they regard him with the fascination one might accord a crashed vehicle at the side of the road. Fay tries to solve 'her' word unilaterally whilst the others are distracted, but is caught red handed and challenged- this further delays the start of the show.

Status values

Objects on stage/ **Actions off stage**

False start
Lines 1-7

Casting

Manager: *Right, I struggled* (Jill).

Challenger: *Sam*

Audience for Sam: *All*

Decider: *Fay chooses 'Ouch'*

Enforcer: *How do you know?* (Jill)

Scripting

Quotation: *I struggled*

Shouting: *NO MAN (Sam)*

Suggestion: *It could be seatbelt* (Betty)

Statement: *Fay choses 'Ouch'*

Challenge: *How do you know?* (Jill)

Staging

Jill assembles props

Betty looks at cards

An argument starts offstage

Jill makes eye contact with Kim

Fay picks up a card

Kim and Jill look at Fay

Figure 87, overleaf, summarises the subsequent evolution of the micro-ecology. The initial state is one of confusion. There are two scripts running at the same time, one performed by Kim, the other by Betty. Kim takes her cue from the text and the materials, relying on them as props to navigate the conversation. Betty's script introduces ideas and suggestions randomly as they occur to her. This approach threatens to destabilise Kim's performance and she responds- *But on number three*. She uses her copy of the text as a prop, thumping it loudly to drive her point home. Betty counters this by taking on the character of a negotiator. She uses soft power (*smiles, eye contact, tapping her copy of the text*) to mollify Kim, thus encouraging Jill to adjudicate in her favour- *You's are on the first one*. Following this, Jill quickly moves the script on before there can be any more trouble- *Number two!*

However, Betty again frustrates attempts to expedite proceedings by pointing out two cards that compete as valid solutions. When Jill tries to dismiss her suggestion, Betty uses Jill's preferred props (*cards and text*) to show her she is wrong. Frustrated, Jill's gaze moves from the stage to the middle distance. The script now changes from one concerned with *locating objects* to one geared to exploring *logical relations*. At first these relations are constrained to the story's plot structure- *They were on holiday*- then to generalised ideas- *If you're on a camp you need a tent*. However, as soon as Jill tries to stage this performance using the cards, her role divides in two: *experimenter* (tries to put two cards on the sheet at the same time); *enforcer* (No we cannot). Here the same actor is simultaneously acting two parts that are diametrically opposed.

In the final state, Fay mimics Jill's logical reasoning in order to eliminate 'seatbelt' and help resolve the dilemma. This breaks the spell, but not in the way she intended. Betty, although alert to the dilemmatic nature of the situation also subscribes to Kim and Jill's privileging of speed and accuracy. She uses the text as a prop to prove Fay is wrong, which reinstates the power of the text as self-contained and absolute in its meaning. Hence, seatbelt is discarded even though no reasoned discussion has occurred.

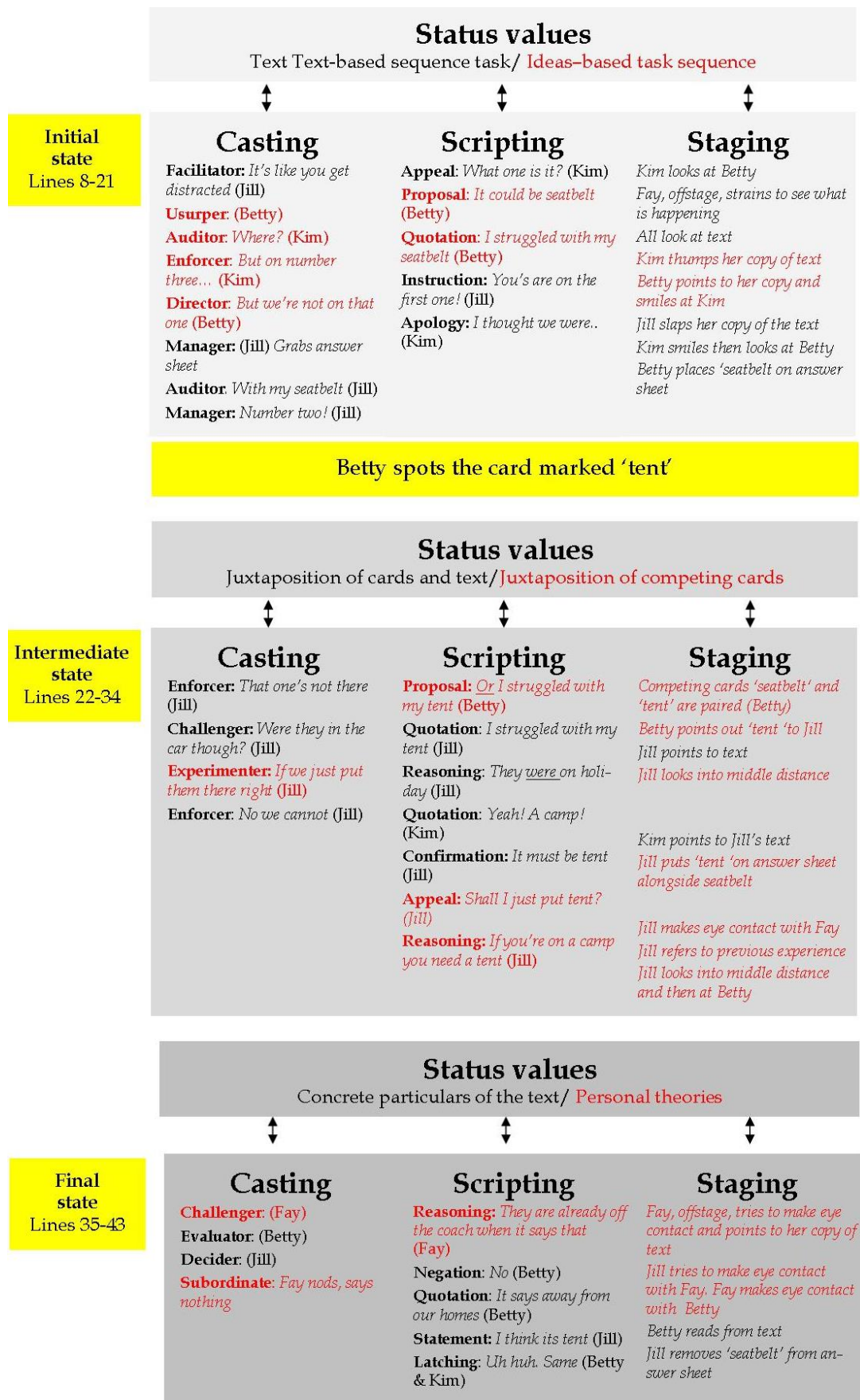


Figure 87 Microgenesis of interpretive dilemma- Conscience, Group A

15.1.4 Week 4 day 2: Distraction (Isolated enactment in Group C)

Lines 1-9 The group try to solve distraction without reference to the text

Time		Physical		Vocal			Artefactual	
1	4.00	Kim	Smiles	Kim	F	Right. We're doing (2.0) Distraction now.		
2	4.02			Betty	A	Distraction is like		
3	4.04	Jill	Holds hands out in front of her palms up	Jill		You get distracted (0.5) Yeah?		
4	4.08	Fay	Tries to make eye contact with Jill	Fay		Shall I go and get the play dough?		
5	4.10	Jill	Stares ahead and shakes head	Jill		<i>Not yet</i>		
6	4.16			Kim	BP	Would it be (0.5) unsuccessfully?		
7	4.18			Betty	S	It was		
8	4.21	Jill	Drums fist against her mouth	Jill	A	[Like (1.0) When you get distracted	Fay	Begins to lean over and crane her neck so she can see cards
9				Kim		[I know what it means but		

Kim smiles and commandeers the agenda for 'her' word '*distraction*'- *Right. We're doing distraction now* (Line 1). Betty and Jill both try to articulate a ready definition for this word but without success, Jill holding up her palms in frustration (Line 3). Having solved her word *eureka* and being largely excluded from the group's discussions, Fay asks Jill to be excused from the group- *Shall I go get the play dough?* Jill declines her request without making eye contact with her- *Not yet* (Line 5). Kim's problem solving strategy is to try to randomly fit cards to the target sentence and ask others to evaluate them- *Would it be 'unsuccessfully'?* (Line 6), whilst Jill and Betty persevere with their attempts at a dictionary definition (Lines 7&8). Jill becomes more impatient and drums her fist against her mouth in frustration (Line 8).

Lines 10- 15 Betty unilaterally changes the agenda

Having come to an impasse with *distraction*, Betty hijacks the agenda and shifts attention back to 'her' word *conscience* (see 15.1.3, above). Kim shows her displeasure at this by first slumping (Line 13) and then frowning (Line 14). Kim tries to regain the initiative by reiterating the correct order for the task- *But on number three* (Line 14)- and reading her target sentence whilst pointing forcefully to each word as she reads it. In contrast, Betty defends her claim by smiling at Kim and gently tapping her finger on her copy of the text- *We're not on that one. We're on this one* (Line 15). At this point the focus shifts to *conscience*.

Time		Physical		Vocal			Artefactual	
10	4.25			Betty	P	Betty Like (.) it could be seatbelt		
11	4.30				CH	I struggled with my seatbelt (1.0) as we sang happy songs and told jokes.		
12	4.33			Kim	F	Where?		
13	4.35	Kim	Slumps, resting her chin on her chin on her hand.	Betty	CH	I struggled with my seatbelt as we sang happy songs and told jokes.	All	Look at text
14	4.40	Kim	Frowns	Kim	F	But on number three (1.0) But we had our (0.5) It was a welcome distraction FROM MY TROUBLES!	Kim	Points to text emphatically as she reads each word
15	4.48	Betty	Makes eye contact with Kim and smiles.	Betty	F	We're not on that one. We're on this one.	Betty	Points to her copy of the text
Group turn to solving other words								

Lines 16-25 Betty completes Kim's task

Time		Physical		Vocal			Artefactual	
16	7.12	Fay	Leans towards Kim	Fay		What's Kim's?		
17	7.14	Kim	Leans towards Fay and makes eye contact then turns her back on her.	Kim	F	Distraction!	Kim	Slaps her copy of the text in irritation
18	7.17	Jill	Flops head forward in frustration	Jill		Could it not be distance?	Jill	Points to 'in vain' in her copy of the text.
19	7.22	Jill		Kim		Look (0.5) Where's distance?	Kim	Picks up 'distance' and places it next to her text
20	7.24					The work we had=		
21	7.25				= not for <u>you</u> !			
22	7.26			Betty	S	The work we had to do was hard but it was a welcome	Fay	Checks her copy of the text
23	7.30	Jill	Rubs her cheek in frustration	Kim		No! I'm not on about mine!	Kim	Waves 'distance' towards Betty in frustration.
24	7.32	Jill		Betty	P	A welcome escape from my troubles		
25	7.35				SE			Betty

It is Fay who turns the group's attention back to Kim's word *distraction*-*What's Kim's?* (Line 16). Kim's response to this move is hostile. She glares at Fay, then turns her back and slaps her copy of the text in irritation, possibly to ward off any attempt by Fay to steal her thunder (Line 17). Meanwhile Jill has turned her attention to solving *in vain* and proposes *distance* as a solution for this phrase, pointing to it in her copy of the text as she does so (Line 18).

Kim misinterprets Jill's move as a proposal for her own word, possibly misled by the fact that *distance* and *distraction* both start with the same letter

string. She picks up *distance*, juxtaposes it with her copy of the text and starts to insert it into her target sentence- *The work we had...* (Line 20). Jill shows her displeasure by frowning (Line 20) and correcting Kim's mistake- *Not for you!* However, without telling Jill, Betty now switches away from *in vain* and joins Kim in her attempt to solve *distraction* in order to nip this argument in the bud. Betty starts by completing Kim's reading of the target sentence- *The work we had to do was hard but it was a welcome...* (Line 22). Jill rubs her cheek in annoyance and Kim, seeing this, tries to retrieve the situation by warning Betty off- *No! I'm not on about mine!* (Line 23). She is too late however because Betty solves *distraction*, inserting her solution *escape* into the target sentence- *A welcome escape from my troubles* (Line 24). In contrast to the hostility shown to Fay, Kim accepts this without complaint, taking the card from Betty and placing it on the answer sheet.

Figure 88, overleaf, summarises the microgenesis of this episode. In its initial state, the ecology is split between those who value the cards and text as self-contained in their meaning (Kim) and those who value general knowledge and personal experience (Jill and Betty). Fay, having solved her word, does not consider herself to be part of the performance at all and attempts to leave the stage. The intermediate state is precipitated by Betty's unilateral decision to abandon the ratified script and switch to one concerning 'her' word conscience. (The consequences of this for the group were described above in 15.1.3).

The final state of the micro-ecology is initiated by Fay who tries to help Kim get her bearings- *Where's Kim's?*- but is literally given the cold shoulder. The confusion over the task sequence remains, with Jill's script focused on '*in vain*' and Kim's on '*distraction*'. Jill's proposal '*distance*' is an attempted *grammatical* fit for '*in vain*' but Kim misreads this as a *physical* match for *distraction*. The coincidental similarity between the two words reveals to the group how lost Kim has become and Betty steps in to solve her word for her before Jill gets more frustrated. Betty, conscious of Kim's need to 'own' her part of the task, passes the card marked '*escape*' to Kim so she can place it on the answer sheet.

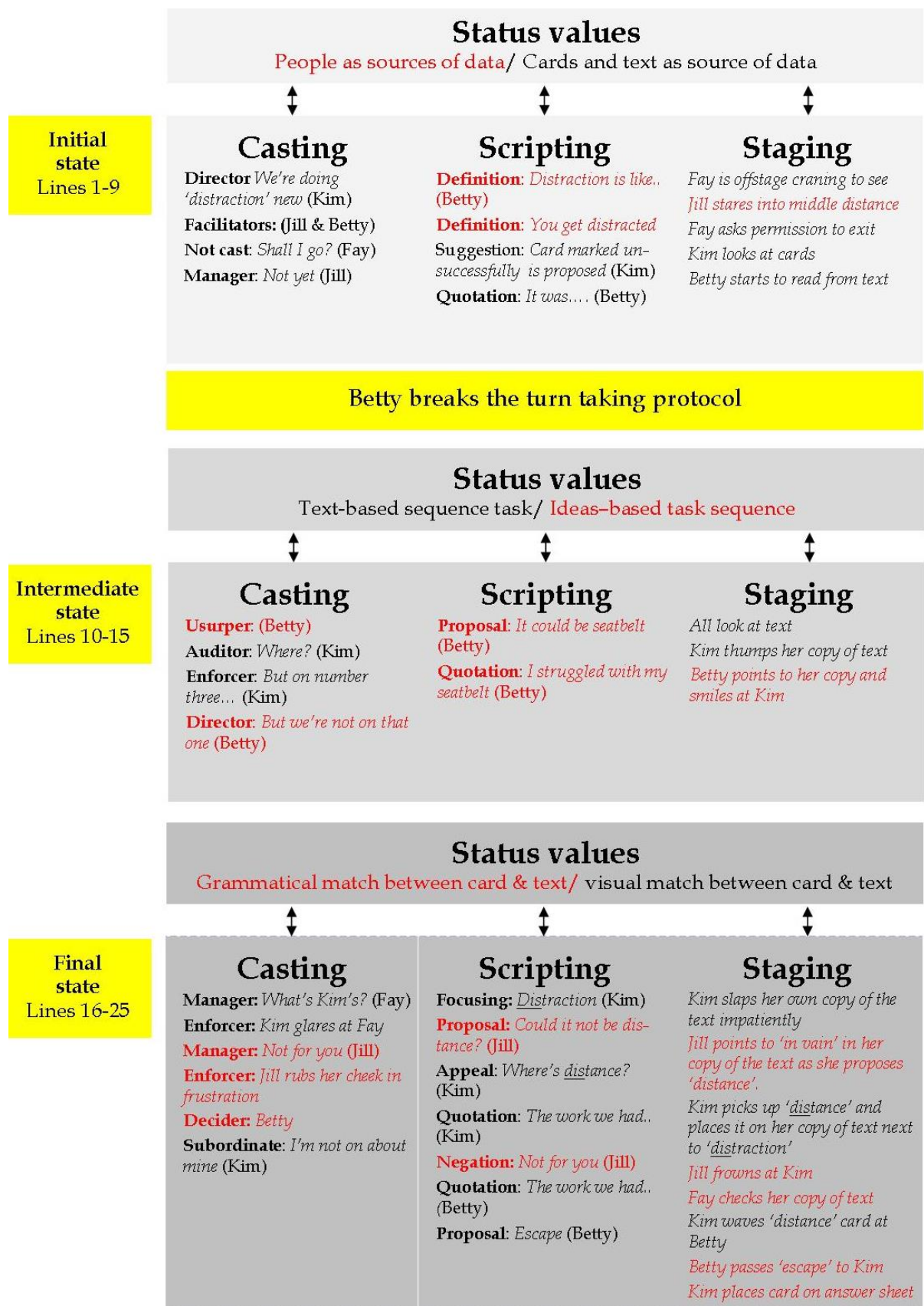


Figure 88 Microgenesis of interpretive dilemma-Distraction, Group A.

15.1.5 Week 4 day 4: *Pulverised* (Isolated enactment in Group D)

Lines 1-12 Betty usurps Kim's role in the task

Time		Physical		Vocal			Artefactual	
1		Jill	Claps hand	Jill		Right!		
2	3.24	Betty Kim	Seeks eye contact with Kim Points to herself and smiles when she hears her name.	Betty	SP	I think Kim's is either killed or run over		
3	3.28	Jill Betty	Claps hand again Smiles at Jill	Jill		KILLED (.) AR::::GH!		
4	3.30			Betty	CN	Cos it said []	Betty	Points to text and reads
5		Jill	Turns to Betty and makes eye contact	Jill		[]	Jill	Points to her own copy of the text
6	3.32	Fay	Motions to Alice to move camera so it is focussed on Kim, Jill and Betty. Camera moves so that Fay is no longer in shot.	Fay		No. just turn it		
7	3.38			Betty	CI	By a passing petrol tanker		
8							Jill	Picks up killed
9	3.30			Kim		Well! Howay!	Kim Jill	Retrieves the answer sheet Holds up card to the camera
10				Alice		You's are on camera		
11				Jill		I know		
12	3.36			Alice	SE	Heh heh!	Jill	Places 'killed' on the answer sheet with a flourish.

Jill signals the next item on the agenda- *pulverised*- by clapping her hands (Line 1). Fay, who is waiting for her turn to solve 'her' word *anesthetised*, asks that the camera be moved to focus on the three remaining members of the group (Line 6). This suggests that, on this occasion at least, her disassociation from the group's activities is voluntary and not simply an artefact of her geographic position.

The paragraph containing *pulverised* was originally read aloud by Kim, which Betty acknowledges when she refers to the word as 'Kim's' (Line 2). Nevertheless, Betty usurps Kim's responsibility for solving the word, proposing a split proposal of *killed* or *run over*. In mentioning Kim by name, making eye contact with her and smiling, Betty uses soft power to negotiate her stealing of Kim's role. In response, Kim smiles and points to herself, seemingly happy to be the focus of attention despite her disenfranchisement (Line 2).

Betty then smiles at Jill who dramatises one half of Betty's split proposal- *KILLED! AR:::GH!* and claps her hands in approval (Line 3). Betty further recruits Jill's support by directing her attention to concrete evidence in the text (Line 4). Jill finds the relevant line in her own copy of the text (Line 5) and Betty then reads a fragment of the target sentence for her (Line 7). Ignoring Betty's alternate suggestion of *run over*, Jill closes the matter by picking up the card marked *killed* (Line 8) and then placing it on the answer sheet with a flourish for the camera (Line 12). Jill is assisted in these efforts by Kim who retrieves the answer sheet for her in order to expedite the process- *Well! Howay!*

Lines 13-18 Kim reclaims the task

Time		Physical		Vocal		Artefactual	
13	3.38			CH		Kim	Takes 'killed' off the answer sheet and places it next to her text and reads
14	3.38	Betty	Gets up and leaves	Betty	<i>I'll get the pencils</i>		
15	3.45			Kim	CI	Kim	Reads aloud.
16	3.50			Kim	N	Kim	Points to a line in the text and looks at the card
17	3.50			Kim	J	Fay	Picks up 'hypnotised' and places it against her copy of the text
18		Betty	Returns with pencils for the next activity	Jill	CI	Jill Kim	Looks at Kim's copy of the text Continues to point at text

Betty's departure to collect some pencils precipitates a change in the approach of Fay and Kim, both of whom have been largely passive up until this point. As Betty leaves, Kim removes *killed* from the answer sheet and juxtaposes it with the target sentence in her own copy of the text (Line 13), which reads

In the headlights we could see that the cat was dead- pulverised by a passing petrol tanker.

Kim mimics the checks used by Jill and Betty, pointing to the target sentence and reading a fragment of it aloud- *The cat was dead* (Line 15). Kim then loudly negates *killed* as a substitute for *pulverised* because it duplicates the word *dead* which is also contained in the target sentence- *IT'S NOT KILLED BECAUSE LOOK.. IT SAYS DEAD* (Line 17). Far from reactivating Betty's dilemmatic choice between *killed* and *run over*, Kim seeks to negate *killed* as an option

because it is perceived as redundant within the target sentence as she reads it. Jill leans across to inspect Kim's copy of the text not her own (Line 18), suggesting she perceives this to be the physical location of the problem. Meanwhile, Fay is busy preparing her own challenge for Betty. Whilst Betty is away, she selects *hypnotised* as a solution for her word *anesthetised* and collocates it with her copy of the text so its fit can be established (Line 17). Hence, Betty faces two challenges on her return to the group (Line 18)

Lines 19-22 Betty reasserts control

Time		Physical		Vocal			Artefactual	
19	3.52	Fay	Makes eye contact with Betty	Fay		Betty! What does that say?	Fay	Holds up 'hypnotised' so Betty can see it.
20	3.55	Jill	Emphasises words by nodding in Kim's direction.	Jill	D	YES! COS IT HAD BEEN <u>KILLED</u> BY [THE <u>PETROL TANKER</u> !	Jill Kim	Points to her copy Continues to point at her text And looks at Jill's copy
21	3.56			Betty		[Hypnotised=	Betty	Hands Kim a pencil. Kim takes pencil and replaces 'killed'
22	3.58			Fay		That's right!		

Fay makes eye contact with Betty on her return, holds up the card marked '*hypnotised*' and issues her challenge- *Betty! What does that say?* (Line 19). Betty provides her answer- *Hypnotised* which Fay then endorses- *That's right!* (Line 22). Whilst this is occurring Jill is defending her selection of *killed* against Kim's challenge and is shouting as she reads from her own copy of the text- YES! COS IT HAD BEEN KILLED BY THE PASSING PETROL TANKER! Betty defuses this confrontation by handing Kim a pencil, at which Kim ceases to point at the disputed passage and the group move on to the next agenda item (Line 21).

Figure 89, overleaf, summarises the microgenesis of the episode. In the initial state some reference is made to the text-based sequence that was prevalent in earlier episodes- *I think Kim's is...* However it is clear that Betty's ideas now have more value as a resource for the group than does the text itself. Her opinion- *I think..*- is accepted without question and dramatized by Jill. It is only once a decision has been made that the script turns to verbatim quotes from the story. Kim initially appears to accept this usurpation of her role, but her performance changes once Betty has left to collect the pencils. Now the script reverts to extracts from the story, coupled with the physical pairing of text and

cards. Whereas, in the initial state, Jill consulted her own text, now she consults Kim's text suggesting she sees this as the localised stage for Kim's performance. Whilst Kim and Jill are distracted, Fay stealthily claims 'hypnotised' and places it on her copy of the text. The final state of the micro-ecology centres on the twin challenges awaiting Betty on her return- the script geared to settling issues of right and wrong. Betty passes Fay's examination with flying colours and, as she does so, ends Kim's resistance by passing her a pacifier (the pencil).

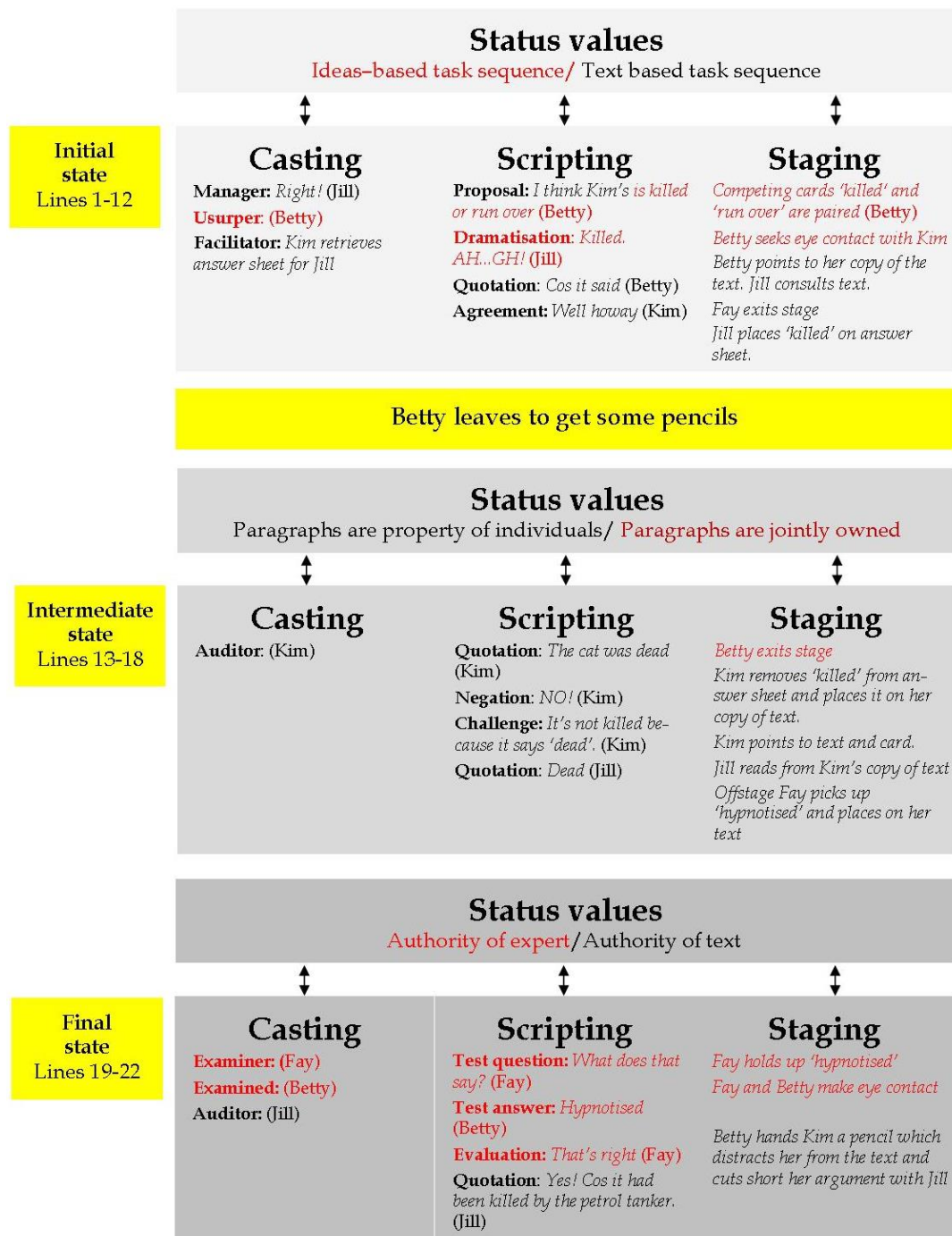


Figure 89 Microgenesis of interpretive dilemma- *Pulverised*, Group A

15.1.6 Summary of textual conditions

Figure 90, below, summarises the textual conditions of the Group A micro-ecology across the transcribed episodes.

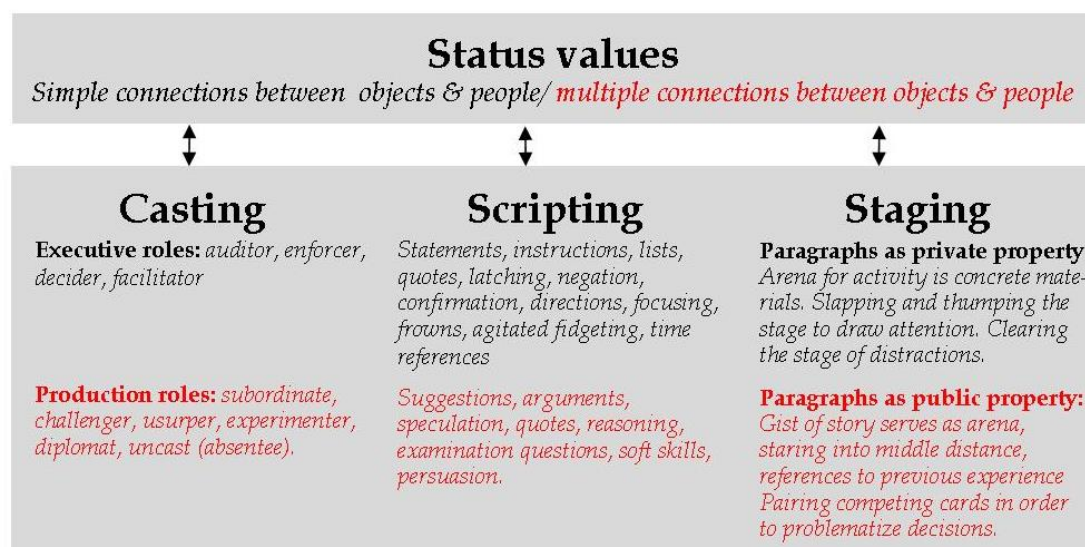


Figure 90 Summary of textual conditions of the micro-ecology- Group A.

Although different values are assigned to different artefacts, patterns of speech and roles over the course of the transcribed episodes, two opposing forces are more or less constant throughout. There is a dominant centripetal system of values that is geared to maintaining cohesion and smoothness of operation. Jill and her adjutant Kim use the text and cards to physically regulate and cue performances so that decisions are systematised and streamlined. Opposed to this is a weaker centrifugal set of values that stress points of difference and divergence. Here scripts are produced that violate simplistic relations between text and cards, sometimes revealing conflicting relations which the executive then act to suppress. The power of the executive to do so is surprising given that Betty and Fay are far more skilled at reading. Interpersonal friction, when it occurs, is dissipated as soon as it is detected, suggesting a shared preference for emotionally neutral situations. Over time, a micro-ecology evolves where the two value systems co-exist in a mutually beneficial division of labour- one devoted to management values, the other to idea production.

A significant shift in values seems to occur when either Jill or Betty exit the stage, suggesting that these actors play a key role in regulating coding procedures for the group. However, there is no clear pattern that emerges when performances are put under strain in this way. Values seem to evolve as a consequence of chance occurrences (e.g. Sam's outburst) or whim (e.g. Fay's decision to step in as peacemaker).

The remainder of this chapter uses field notes, video log entries, interview data and test scores to further develop these inferences as they apply to each individual group member and the dynamic of the group taken as a whole. Sections of video logs directly quoted in the main body of the thesis are highlighted in yellow in the appendix to aid the reader in crosschecking these data.

15.2 Jill's positioning of self and others in the dilemmatic space

15.2.1 Inferences drawn from the sampled transcripts

Jill is torn between two incompatible imperatives- *speed* and *accuracy*. She equates success with speed, but this compels her to work at a pace that makes accuracy difficult for her to sustain. Jill's moral dilemma is a choice between maintaining accuracy through a laborious and time consuming reliance on concrete materials, or sacrifice this control and delegate these decisions to Betty. Jill uses her role as a manager to position herself and others according to this trade off.

15.2.2 Contextual data from tests, interviews, meetings and video logs

A consistent theme in Jill's interactions is her preoccupation with time. This is perhaps most apparent towards the end of making tasks when group members are finishing their artefacts in preparation for a retell of the story. Jill hurries their efforts along with time checks, *We've only got till twenty to, that's ten minutes* (D2.26, p.187) and expediting comments, *Are yous ready?* (D2.12, p.123). On occasion, these are used in tandem- *We've got ten minutes.....Betty, do you really have to do that?* (D2.22, p.167).

This need for pace has consequences for the accuracy with which Jill can read and understand a section of text. In her hurry to read a passage, Jill omits simple high frequency words like *was*, *the* and *so*, leading to a breakdown in meaning (D2.1, p.62). Even when the percentage of words read correctly is high, Jill's tendency to slur over punctuation marks means that she is often wrong-footed and has to re-read sections in order to regain sense (D2.17, p.144). Her haste worsens when Betty joins the group, with whole sentences being omitted or misread as Jill struggles to match her for speed (D2.5, p.82).

Given these limitations, Jill depends on concrete materials rather than eye contact and negotiation to coordinate her activities. She uses her copy of the text to monitor progress and to cue members of the group to contribute. Responsibility for solving a given target word falls to the individual who read the passage containing that word at the beginning of the session, hence

- *Right, where's yours?* (D2.13, p.121)
- *What's yours then?* (D2.25, p.185))
- *I haven't done mine yet you know!* (D2.29, p.205)

Two traits suggest that, for Jill, interaction with the text is not an end in itself but a means to an end. First, during passage reading Jill routinely ignores the text once she has read 'her' paragraph, preferring to spend this time organising materials in preparation for the next task. Second, during the solving tasks, her strategy is to point to a text fragment containing a target word, find a card that fits this fragment grammatically, physically move the card so it is placed against the text fragment and then move the card to the answer sheet (see below, D2.9, p.102)



In both cases the narrative is perceived as a tool through which Jill can regulate her actions and those of her peers, rather than something to be understood in its own right. In order to maintain speed in this cumbersome system, decisions are streamlined and competing card choices deleted from perception. Under Jill's logic each target word corresponds to a single solution card, meaning that a search can legitimately be terminated as soon as a grammatical fit is found. In the log entry below (D2.1, p.63), Fay's superior ability to read 'evicted' and define it in a way that is consistent with the story does not tally with Jill's a priori definition, and so is simply ignored.

Target word: *Evicted* **Selection:** *taken away*

Jill reads the target word as **evacuated** and looks for it in the text. Kim shouts *It's there!* and points to it. Fay tells them the word is **evicted** and Kim and Jill laugh and repeat the word. Fay says *'That means you can't go back.* Jill contradicts her *No evicted means you go,* which is still a definition of evacuated. Fay says *it means you're not suppose to be there or you're kicked out.* Kim points to a card **taken away**. Jill agrees and places it on the answer sheet, despite the fact that **thrown out** is a better fit for Fay's definition.

When solving '*malign*' (D2.13, p.121), Betty proposes two candidates that are equally plausible in terms of the localised evidence upon which the group make their decisions- *evil* and *powerful*. However Jill interrupts Betty's reading of the relevant text fragment and selects '*evil*' as the preferred definition before all the evidence can be heard. Jill seems to perceive dilemmatic choices like this as signalling a failing in the group rather than a universal property of the target words themselves. This is suggested by her reaction to my feedback on spotting that *subtle* had been wrongly defined as *quickly* (D2.5, p.84). I hinted to her that one of the group's responses to the target words was wrong and that they should try to rectify this while they waited for new materials to arrive. The ensuing discussion, below, demonstrates Jill's conviction that a failure to separate *clean* and *white* as competing definitions for *pristine* signals that a mistake has been made- this despite Fay's correct suggestion that the problem lay in their interpretation of *subtle*.

Jill – *White*
 Fay – *Aye, but it would be white if it was clean...*
 [Fay misreads subtle] *Suitable... that means it suits you.*
 Betty [Tries 'good' for pristine] *Were always good....*
 Fay – *His shirt collars were always clean.*
 Jill – *It's got to be one of them* [taps fingers impatiently on cards]. *Try which one goes the best. His shirt collars were always...*
 Betty – *His shirt collars were always clean; His shirt collars were always cotton; His shirt collars were always white.*
 Jill – *It's white. It's got to be white.*

Jill's control over the solving tasks is threatened whenever Betty and Fay talk about the text in more abstract terms, referring to episodes in the story out of sequence and making choices without referring the concrete materials. On these occasions Jill's dependency on the text and cards as navigational aids mean that she struggles to keep up with the focus of the discussion and can quickly become lost. When Betty solves *particular about things* Jill, unlike Fay, uses the answer sheet rather than the narrative structure to follow what is going on (D2.5, p.83).

Despite the fact that Fay read this paragraph Betty works on her own, repeating **organised** to herself, then announcing to the others *The middle one's organised*. Betty moves on to solve **pristine**. Jill, uncertain, says *So the middle one's organised?* and places the card on the answer sheet. No one confirms this for her or explains the choice.

In this sense Jill's managerial role is a defence mechanism- a means by which she can bridge the incompatible values of speed and accuracy she projects onto the tasks. For example, she polices any deviation from the text-dictated sequence upon which she relies (e.g. D2.5, p.83)

Whilst Jill and Betty are discussing **quickly** Fay talks across them and says that **like a ton of bricks** means **loudly**. Jill complains at being interrupted- *No!*

Jill also uses imperatives, sometimes accompanied by physical gestures, to insist on a single definitive referent for each target word. In the example below, (D2.1, p.64) Jill suppress Fay's emphasis on illustrating the 'gist' of each paragraph and instead directs the group towards precise definitions.

Jill focuses the task by summarising the cards that the group selected. She asks Fay and Kim *What do you think it is?* Fay defends the selections that group made. *That sounds right, cos I read the paragraph.* Jill gets frustrated- *No! What do you think it IS though?* Kim, meanwhile, is playing the play dough. Jill then bangs her fist on the table. *We've got to know what it is!*

15.2.3 Rule breaking and experimentation

There are several instances recorded in the video logs where Jill's interactions with Betty and Fay lead to semiotic change. In the sequence below (D2.25, p. 185), Jill's misreading of the text fragment surrounding '*trepidation*' initially leads her to interpret it as an adverb- *quickly*. At this stage Fay's suggestion of *fear* is treated as a lie, much as in the earlier example where Fay tried to help her with *evicted*. Fay's correct reading of the text fragment together with a summary of the story's theme changes this, allowing what was a 'lie' to become a 'truth'. Jill's rejection of Kim's adverbial suggestion '*calmly*' is testament to how rapidly this change in perspective is achieved.

Jill misreads the surrounding passage so that **trepidation** refers to how the character removes his things from the boot and not how he feels. On this basis, she proposes **quickly**. Fay then proposes the correct solution – **full of fear**. Jill again misreads the relevant phrase in the text- **he got them out full of fear**- and so negates **fear** by shaking her head. Fay makes a split proposal – **full of fear** or **full of anger**. Kim collects both cards and says ‘Try it’. Fay reads the target phrase correctly – **I got my things out of the boot full of fear as to what I might find in the house**. There is a pause. Jill repeats the first part of the phrase- **I got my things out of the boot full of....** Barry again proposes **fear** and Jill tells him to shut up. Fay tells her it has to be fear because **he is afraid of what he might find in the house**. Kim shouts over her, **calmly** and points to this card. Jill rejects this and places **fear** on the answer sheet.

Jill then mimics Fay’s connection of print based evidence and story themes when helping Kim decide how to illustrate *deteriorated* (D2.25, p.186). Kim initially has no ideas of her own, whilst Jill decides to depict concrete events from the text that bear little relation to her target word ‘*fear*’.

Jill- *What could I draw for fear?.... I could draw a car and him getting out... Oh no! Him with his bags.*
 Kim- *Aye. What can I do?*

Later, Kim still has not made any progress and nags Jill to make the decision for her. In doing so Jill seems to mimic Fay’s earlier intervention, coupling story themes (*something’s happened when he’s gone*) with material facts (*draw a sitting room*). As a result Jill makes a connection between the destruction inside the house and damage to the gate post that her earlier summary of ‘*fear*’ omitted.

Kim- *What can I do?*
 Jill [Consults the text] *Um.... You could like.... Draw a sitting room and it’s all smashed up cos something’s happened when he’s gone. So you could draw something like.... No! The gate! Draw the gate like smashed [gesticulates in the air with pencil] cos the thing on the lock’s come off the gate.*

In the subsequent retell, Kim concentrates on material facts and makes no mention of the cat or the main character’s worry as to what has happened to his family in his absence. Jill, by contrast, establishes the character’s abstract thoughts and feelings caused when he sees the broken gate on his arrival home.



Jill

His friend's mam dropped him off, and he got his bags out of the car and he felt fear within him cos he knew that something had happened in the house.



Kim

After when the boy went in the house he went upstairs and there was no one else but him and the dog and the dog was starving. Something had happened in the room since he'd gone away. The bed had been leaned against the wall and the mattress had been put on the floor.

There are also examples where Jill spontaneously connects story themes with specific words and phrases through mime (D2.9, p.103; D2.29, p.206).



Betty [looking at the text] *How am I supposed to draw the air?*
 Jill [Clasping her ribs] *You could have him...*
 Betty [Still looking at the text] *You've got to draw what's happening... so like the living room... Like dark* [Draws outline of the room]
 Jill- *It is... then it's his heart* [Clutches her ribs again].



Jill- *Do you know what? I'll just do it torn cos it had it's sharp claws out* [Makes clawing gesture in air] *So it ripped it* [Makes ripping gesture on her sheet]

This appears to be a mode more favourable to experimentation by Jill than drawing and modelling which appear to exacerbate her tendency to restrict interpretation to localised facts and text fragments.

It can't be 'unsuccessfully'- What could I draw for that? (D2.21, p.166)

15.3 Kim's positioning of self and others in the dilemmatic space

15.3.1 Inferences drawn from the sampled transcripts

Kim perceives status as stemming from success in the *autonomous* completion of tasks. To this end Kim is highly possessive of the word based problems she perceives as 'hers' and will resist attempts by others to help or interfere. When it comes to the text-level work she abhors, however, Kim switches to a *needy* modus operandi whereby others are morally bound to solve problems for her.

15.3.2 Contextual data from tests, interviews, meetings and video logs

Kim and Jill are close friends and this is reflected in the similarity of their approach in the sessions- at first glance, Kim's modus operandi is a carbon copy of Jill's. Although her first attempt at passage reading is slow and laborious, the speed of Kim's reading soon matches that of Jill and with similar consequences. Kim omits simple words (e.g. *had*) or misreads them (e.g. *where/were; farmer/farmers*) and so the meaning of what she reads often breaks down (D2.21, p.164). This, however, is a trait Kim has brought to the tasks rather than one she has learned from Jill. Her reading of the fiction passage in the YARC test battery was fifth fastest in the cohort, giving her an age equivalent score of 13.01 against her chronological age of 12.08 (B2, p.13). However, her comprehension of the passage was poor by comparison (10.08) suggesting that, as with Jill, meaning and understanding are subordinate to speed and efficiency. This is consistent with Teacher B's theory that Kim's underachievement stems from her total reliance on word recognition at the expense of monitoring sense.

Researcher- *Another one who is interesting is Kim.*

Teacher A- *She seems to be stuck on a 4C.*

Teacher B- *They did a thing on the internet where there was a piece of writing where the first and last letters were correct but they muddled all the letters in the middle and you could read it perfectly. So we're doing that but as you say we will go back and say 'We've got that wrong' but like the 'bumble' and the 'bubble'.... And we would know that every time we say the shape of that word it must be bumble because of the context. (H2.2, p.335-6)*

Kim follows a similar strategy to Jill in her approach to the word solving tasks. Kim limits her attention to small fragments of the text which are used to test the grammatical fit of cards to target words. Often these fragments are a heavily edited version of the text, as when Kim attempts to solve *pandemonium* (D2.29, p.205). The text at this juncture reads

I chased after the pack of hounds into the living room and found a scene of **pandemonium**. In the middle of the room was the cat, standing upright and lashing out with its razor sharp claws.

Kim's re-read, where she has correctly substituted *confusion* for *pandemonium*, reads as follows:

I found a sense of **confusion** in the middle of the room.

Kim's streamlining of the text deletes most of the surrounding information the she needs in order to make a considered decision, her misreading of *scene* notwithstanding. Yet this approach is, in Kim's eyes, an established group norm, as suggested by her induction of Barry into the group's practices (D2.25, p.185). Here Barry is charged with finding a matching card for *emaciated*.

As I entered the kitchen I was greeted by an **emaciated** Billy.
His food bowl had been licked clean, his water bowl was empty and
he was so thin his ribs were showing through his fur.

Kim tells Barry to restrict his attention to the sentence fragment immediately surrounding the target word (i.e *I was greeted by an emaciated Billy*). This is sufficient to screen proposals for grammatical plausibility, but screens out relevant information needed to form an interpretation (e.g. food bowl, ribs). Hence, when Barry selects *hungrily*, Kim and Jill perceive only its syntactic awkwardness, not its relevance to the story's theme of neglect.

Barry also starts to read the phrase and is told to shut up by Kim. Barry protests– *I know what to do. It's about the dog!* Kim again intervenes– *You have to read around the word first!* Barry replies *I know what it is. It's ema-k-iated*. The he picks up **hungrily** and puts it on the sheet then paraphrases the text– *The dog was hungrily...* Kim and Jill negate this and remove the card. Barry protests– *It's about Billy. His bowl had been licked clean!*

A key difference between Jill and Kim is suggested by their contrasting responses to Barry's final protest. Jill checks Barry's claim by reading beyond the target sentence and agrees with him to the extent that *hungrily* is a fit for the

theme of neglect at this point in the story. Unhappy with the syntax of *hungrily*, however, Jill continues to search amongst the cards and finds *starving* which she reads aloud. However, she fails to connect *starving* with *emaciated* because, at that moment, a fight breaks out between Barry and Kim (below).



This episode suggests that, although Jill often subordinates understanding of the text to speed of execution, she does not dismiss it entirely. Kim, by contrast, very rarely engages with the narrative as a coherent text, as can be seen in this exchange where Kim attempts to help Jill with her illustration of *damage* (D2.29, p.206).

Jill- *What can I do for damage?*
 Kim- *Just put a smashed window.*
 Jill [Exasperated, holds hands out]
No! You've got to do something from the story Kim!



This difference between the two friends comes to a head in another exchange that takes place when the group are engaged in making story reconstructions. Kim cannot think of how to illustrate a scene where the main character's mother greets him *distractedly* (D2.13, p.122). First, Teacher A tries to help Kim but without success.

Teacher A- *Have you decided on the meaning?*
 Kim- *No, I just need to know what to draw.*
 Teacher A- *Read the paragraph again and get the gist of it and then see if you can draw the picture from that second reading.*
 [Teacher A leaves]
 Kim- *So what should I put?*

After repeated requests, Jill agrees to help her friend and through reading the story again she identifies *hazily* as a better fit for *distractedly*.

[Jill tries to help Kim by defining distractedly for her]

Jill- *It must be hazily you know. It must be hazily!* [Nods her head for emphasis]

Betty- *It could be tiredly you know... because the cat. Read it with tiredly in.*

When Betty challenges Jill's interpretation of the text, Kim does not check it herself but passes her copy of the story to Fay and asks her to read it and tell her what to draw. At this point Jill loses her temper.

[Kim passes a copy of the text to Fay who reads]

Fay- *Morning Andrew she said tiredly*

Kim- *Aye!...What can I do for tiredly?*

Jill [exasperated]- *Like ... READ THE STORY* [points emphatically at Kim's copy of the text]

Kim [Shouting] *BUT I NEED TO DRAW IT!*

Jill- *READ IT AND THEN FIGURE OUT WHAT TO DRAW!*

Kim- *But I don't know what to draw.*

Whereas Jill limits her engagement with the text in the interests of efficiency, Kim seems to avoid it on a point of principle. She makes it clear in the group interview that she hates passage reading and identifies this as the element of the task that most deterred her from attending the sessions (H1.1, pp. 307-8).



Kim gets by, in part, through her superior visual memory for words. At test, her word reading ability was the highest in the cohort with an age equivalent score of 12.06 (B1, p.12). This allows her to process text quickly whilst minimising her engagement with its content. In the word solving tasks, Kim's strategy is to play to her strength- *find a card* first and then *fit the text to it*

second- *Pick the one you think it is and then try and get it in between* (D2.17, p.145). As a result, Kim is liable to subvert key concepts in the story so they align with her a priori associations.

Jill- *Uh huh. I need to do litter like..*
Kim- *Like cat litter*
Jill- *No! Litter... crisp packets and things.*
(D2.9, p.103)

Kim is vulnerable, however, to the emphasis on concepts and themes in the making and retell tasks, as evidenced by her confused distortion of the story structure when summarising the cat's experiences for Fay (D2.1, p.61)

Kim says No! It got taken away by its mam right.. This is what I'm thinking and then it's happy with another family and then it's windy and then it's blocking... Well it might be!

Kim's participation in making activities is punctuated by continued and repeated appeals for help- her helplessness continuing late into the prototyping period (e.g. D2.25, p.185)

- Kim *What can I do?.....*
- Kim *What can I do?.....*
- Kim *Right! What can I do for 'happened'?.....*
- Jill *Howay man, I'm nearly done!*
- Kim *What can I do?*

Underpinning these repeated appeals is a belief that her colleagues have a moral obligation to help her with this type of work. Rather than each person taking responsibility for different tasks as Jill would have it, Kim perceives each making task as a joint responsibility. It is this that fuels the argument between the two described above.

Kim- *We're supposed to be working as a team here!*
Jill [offended] *sits up*- *WE ARE!* [Keeps mouth open in protest].
Kim [more quietly] - *I know... I was only joking.*
[Kim tries to help Jill with what she is doing but Jill pushes her hand away]
Kim- *What can I do?*

Yet the helplessness projected by Kim in the making tasks jars with her territorial attitude towards the word solving tasks which are her strength. Here she frequently claims sole credit for the solutions she facilitates.

- *I got it right!* [Smiles and points to her text] (D2.29 , p.205)
- *This one's mine!* (D2.1, p.63)
- *I thought of that!* (D2.17, p.145)

Jill uses the text to regulate and sequence activities, but is flexible as to who takes ownership of these tasks. If Betty or Fay can assist in the speedy execution of tasks then their help is welcomed. Kim, on the other hand, will defend her ownership of a word solving task irrespective of the ability or status of the trespasser, as can be seen in the following log entries (D2.9, p.102)

First, Jill (middle) accepts Betty's (right) help when trying to solve 'her' word, *debris*.



Jill misreads **debris** as **derbis** and tries to find it in the text. Before she can do so Betty points to the card marked **litter**. Then she points to the text and reads to confirm **It was covered in crisp packets and dirty bowls**. No mention is made of the fact that **littered** appears in the text. Jill quickly holds the card against her copy of the text and then transfers it to the answer sheet.

Betty then tries to help Kim in the same way but is repulsed before she can explain how her two proposals relate to the text.

Kim slaps her hands on the table to signal that it is her turn. Before she can speak, Betty suggests either **hand full** or **truck full**. She starts to explain *Because a hand full...* but is cut off by Kim who tells her to *Wait!* Kim takes the card marked **truck full**, places it against the text (below) and misreads– *a cat couldn't even eat a truck full..* She then carries out the same test with **hand full**. Kim says the answer sounds like **hand full** and Betty agrees. Jill places the card on the answer sheet.

This need to defend her ownership of a solving (*word based*) task is in stark contrast to her helplessness during making (*meaning based*) tasks. This presents her co-workers with a paradox which Kim masks by echoing Jill's prescriptive, managerial approach. Her deference to Jill in their confrontations, coupled with her mirroring of Jill's manner suggests that Jill serves as a role model for Kim in her interactions with others. Her alignment with Jill lends Kim a veneer of authority that conceals her limitations as a reader, allowing her to disguise appeals for help as instructions. Appropriating the impersonal authority of the rules allows Kim to access Jill's personal authority by proxy. It also allows Kim to save face when her shortcomings are exposed (e.g. D2.9, p.102).

15.3.3 Rule breaking and experimentation

Without Jill's personal authority or Fay and Betty's expertise, Kim's status is vulnerable to any breach of the protocols and rules upon which it rests. The extraordinary violence she metes out to Barry in response to his deliberate, or sometimes unthinking disruption of the group's coding procedures is testament to this (D2.25, pp184-8). In the course of this one session Kim:

- *Twists his ear;*
- *Stabs him in the shoulder with a pencil with sufficient force to break it;*
- *Uses a plastic pot to beat him on the head and;*
- *Slaps him hard across the face.*

Given the ferocity with which Kim defends protocol it is perhaps not surprising that there is little evidence of rule breaking in her own dealings with others. Betty's breach of turn taking protocol in solving *pulverised*, on the other hand, seemed to spur Kim to take personal responsibility for establishing the text's meaning rather than rely on Jill for this.

15.4 Betty's positioning of self and others in the dilemmatic space

15.4.1 Inferences drawn from the sampled transcripts

Betty applies two distinct principles to her role as a reader. Prominent in her passage reading and word solving activities is a belief that texts communicate *ideas* that can be verified as factually correct through a forensic analysis of words and textual fragments. Alongside and, sometimes militating against this dominant tendency, is the value Betty places on more generalised *concepts* that can be inferred from the concrete particulars of print.

15.4.2 Contextual data from tests, interviews, meetings and video logs

Betty's superior performance in the YARC comprehension tests (age equivalent 16.00 in both fiction and non-fiction tests) suggests that she is by far the strongest reader in the group. One might, therefore, expect her approach to the tasks differ markedly from that of her peers, but this seems not to be the case. Like Jill, Betty reads aloud as fast as possible and this, again, has consequences for her ability to monitor meaning and sense. Her running record (B5.3, p.19) demonstrates considerable skill in decoding challenging words (e.g.

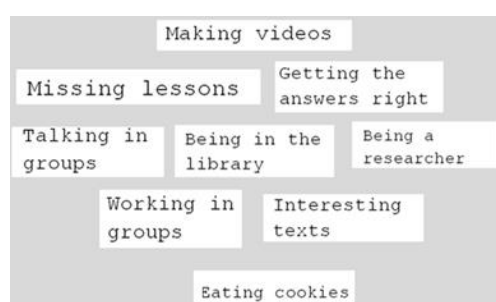
subsequently, replicating) but this is accompanied by frequent misreading of smaller high frequency words (e.g. *the, and, sometimes, angry*) that give a text its cohesion. This suggests that, like Jill and Kim, she perceives the text as more a collection of words to be read quickly than a coherent message to be understood. However, there are occasions where Betty orients to the text as a site for meaning making. In her running record this is suggested by visual errors that preserve the sense of what is being read (e.g. substitution of *begin* for *being*) and, in the prototyping sessions, by sustained efforts to self-correct passages (*left*) that sound wrong when read aloud (*right*) (D2.21, p.164)

He just looked anxiously as his watch
as if he was desperate to get away.

*He just looked anxiously at his
watched... at his watch.... as he... as
if he....*

This double faceted approach to reading is noticeable when Betty attempts to mimic Fay's measured and expressive style of reading (D2.5, p.82). Having listened to Fay's fluent reading, Betty succeeds in mimicking it when reading the first line of the succeeding paragraph. However, she cannot sustain this effort and soon lapses into speed-induced errors and mechanical delivery.

Despite her superior test scores Betty's confidence, like Kim's, relies on visible success in 'getting the answers right'. This is evident in her response to the diamond ranking task (H1.1, p.306-9)



*Getting the answers right is canny good
because it boosts your confidence.....*

*Making videos is good because
it boosts your confidence.*

Betty shares Jill and Kim's perception that there is always an exclusive one to one correspondence between a target word in the text and a given solution card. Betty often *appears* to violate this principle through identifying competing candidates that mirror the intended interpretive dilemmas designed into the materials, for example:

- Pristine: *clean* or *white* (D2.5, p.83)

- Hopper full: *truck full* or *hand full* (D2.9, p.102)
- Malign: *powerful* or *evil* (D2.13, p.121)
- Conscience: *tent* or *seatbelt* (D2.21, p.165)
- Pulverised: *killed* or *run over* (D2.29, p.205)

However, Betty seems not to perceive these options as dilemmas to be discussed and managed but shortlists of candidates that have equal relative value. Betty's aim is to increase the efficiency of the group by reducing the field of relevant data to a small pool of options. Thus, Betty is able to perceive the designer's intended dilemmas, but attaches a different significance to them.

Although she uses text fragments to check the fit of cards during the word solving tasks, Betty is able to cross check this work against a gist understanding of the story gained through listening to others read. This can be seen in the group's attempt to solve *smartly* (D2.9, p.102). Here Betty is able to make and test multiple candidates (*cleverly, silently*) without touching the materials, whereas Kim and Jill both rely on physical collocation of selected cards with the text to track the decision making process. This difference in approach can also be seen when the group attempt to solve *in vain* (D2.21, p.165):

*In the afternoon they tried to tire us out by making us go on long walks, but **in vain**.*

Betty selects *unsuccessfully* on the basis that the teachers in the story were trying to wear the children out so they would sleep at night. Jill cannot accept this candidate because her rule for the task is that a card must correspond to a word not a phrase- '*in unsuccessfully*' being the reading that results from this logic. Kim, as is her wont, reads around the target word and so connects *long walk* in the sentence with *distance*, proposing it as a definition of *in vain* on this basis. It is testament to Betty's authority and expertise that she is able to defend and complete her selection of *unsuccessfully*, despite the overwhelming, if distorted, concrete evidence leveraged by Jill and Kim.

However, Betty provides fewer such justifications and explanations as time goes on. She gradually breaks free of the restrictive turn-taking sequence imposed by Kim and Jill and is permitted to make unilateral choices. In exchange Jill and Kim gain status through endorsing the pre-packaged

decisions she presents to them. This, however, discourages Jill and Kim from meaningful engagement with the story during the word solving tasks and exacerbates their tendency to focus on concrete particulars of text fragments and cards. As a consequence, by the time the group make the transition to the making tasks, Jill and Kim sometimes do not have a coherent understanding of the story on which to base their illustrations (D2.21, p.167).

Jill – *It can't be unsuccessfully... What could I draw for that? There's nothing I can draw for that!*
 Kim [Stands up] – *What can I draw for escape? There's nothing I can draw for that either!*
 Betty – *Draw like trees ... and then draw a sign saying 'Woods' and then... like*
 Jill – *Oh right! I know what you mean*
 Betty – *And then they..*
 Jill – *Try and make them go on a long walk.*
 Kim – *What can I do?*
 Jill – *You could have this thing [hands as if holding something] and they try to escape.*
 Betty – *You could do a sign saying 'Thomas's Farm*
 Kim – *What for me?*
 Betty – *Uh huh!*



Betty's tenor in the above exchange is akin to that of a film director, marshalling disparate fragments into a coherent and consistent rendition of the story. Betty orients Jill and Kim towards key events in the story and away from their narrow concrete interpretations of *escape*- for example Jill's miming of a pair of handcuffs (above). In Jill's case, she is literally directed to the text by Betty and starts to use it as a meaning making tool:

Jill [Turns to Betty] *What was I trying to draw again?*
 Betty – *Printing on the sign saying 'woods'.*
 Jill [Turns to her copy of the text] *and then from memory tell the story about how they were .. Erm...*
 [Reads from the text 'Our torches were on for most of the night'].



15.4.3 Rule breaking and experimentation

There is evidence to suggest that Betty's role of director has a mitigating effect on her own propensity to privilege concrete interpretations over abstract concepts. In the course of directing Jill and Kim to key story themes and plot

devices, her own understanding of the text is developed. For example, during a word solving task she interprets *struggling with my conscience* as *struggling with my tent*. This misconception is realised in an illustration showing the character struggling to erect a tent yet, by the time of the retell, there are indications that the emotive connotations of *conscience* are also being perceived. Here Betty's conflicting adherence to matters of fact and awareness of overarching abstract concepts co-exist in the same utterance.



They're getting further and further way from their families and their pets and he's struggling to put his tent up and everyone else has got their tent up and he hopes nothing bad will happen to the family.

15.5 Fay's positioning of self and others in the dilemmatic space

15.5.1 Inferences drawn from the sampled transcripts

Fay faces a difficult choice between *conformity* and *integrity*. She makes great efforts to be included in the group's deliberations despite her physical isolation, and mimics Jill's executive style in order to be accepted (e.g. 15.1.2 Pristine, above). Fay, however, orients to the text differently from her peers and invests time exploring nuances of meaning that serve to critique the group's decisions.

15.5.2 Contextual data from tests, interviews, meetings and video logs

Fay's performance in the YARC tests was uneven. Her comprehension of the supplementary non-fiction text gave her an age equivalent score of 13.02 against her chronological age of 12.06. Her word reading and fiction comprehension scores were, by contrast, the lowest in Group A, at 10.06 and 9.08 respectively. Yet these low scores belie her performance during the prototyping sessions. Fay's passage reading consistently stood out from her peers in terms of its fluency and expression. Over the seven paragraphs she read aloud, Fay made 8 uncorrected errors compared to Betty's 17 errors over eight paragraphs. Like Betty, some of Fay's errors preserve the meaning of what is read, for example when she substitutes *means* for *meant* (D2.5, p.82). Fay

also tries to solve difficult or unusual words rather than abandon them after a few attempts, as is the case with Kim and Jill (e.g. *straggly* D2.17, p.144; *cockerel* D2.21, p.164; *anesthetised* D2.29, p.204). Unlike Jill and Kim, Fay listens to others throughout the passage reading task and is not distracted by 'busy work' or horseplay. She uses a gist of the text's meaning to inform the group's definition of *trepidation* (D2.25, p.185) and, like Betty, is comfortable proposing two competing definitions for a target word, e.g. *squall* (D2.1, p.63).

Jill and Kim both recognise and defer to Fay's expertise in the opening session (D2.1, pp.62-3). Kim appeals to Fay, not Jill, for help when reading *reluctantly* and Jill seeks approval from Fay before selecting *blocking* as a definition of *distorting*. It is also Fay's interjection that transforms Betty's first story retell from a list of characters to a genuine recount (D2.5, p.85)

Betty conducts the retell by pointing to each part of the group's reconstruction in turn:
That's the boy [points] and that's his sister [points]. His sister's called Jade... They're the raindrops that's on the window [points]. That's the dog [points] That's the cat [points] and that's they boy.
 [Fay off camera sotto voce] *They take more notice of the cat*
 [Betty continues] *And they take more notice of the cat than they do the boy...*
 [Betty stops looking at the reconstruction and looks at Fay]
The boy's allergic to the cat and the changes aren't that big cos it's only the boy that realises.

However, Fay's authority as an expert quickly diminishes once Betty joins the group. Whereas Betty is permitted to violate Jill and Kim's turn taking protocols, similar moves by Fay are disciplined or ignored (D2.5, p.83).

Whilst Jill and Betty are discussing quickly Fay talks across them and says that **like a ton of bricks means loudly**. Jill complains at being interrupted- *No!* Fay persists. *If you come down stairs thud thud thud...* and emphasises each thud by banging her hand on the table. The others ignore her. Later, when Betty has solved **particular about things**, Fay stands up, leans over and tries again. *I think a ton of bricks is loudly* she says, pointing at the card (right). Again Betty and Jill ignore her.



Fay's exile does not appear to be engineered by Betty, as the two collaborate well on a number of occasions (e.g. *obsessively* D2.5, p.83). Instead, it seems to be an artefact of how the materials are repositioned once Betty joins the group. Given her recognised status as an expert, the cards are placed in front of Betty, not Jill, meaning that Fay (far left) is now a considerable distance from them.

Her physical marginalisation from the materials is matched by her social isolation as she cranes and gesticulates in her attempts to be noticed, below.



Jill then says 'Right! Where's yours?' and looks across at Betty's copy of the text. Kim and Fay strain to see what is going on. (D2.13, p. 121)



Betty suggests **dangerous** and checks it herself. The group pause, unsure. Kim, pointing at the cards, suggests a strategy *Pick the one that you think it is and then try and get it in between.* (D2.17, p.145)



Fay- Barry. Jill. Look. My hand's gone yellow [Holds hand up but no one takes any notice] (D2.26, p.187)

In the final session this exclusion of Fay from the group's activities is taken further when the camera operator positions the camera so Fay is not in shot at all (D2.29, p.206). At first Fay resists.

Jill reads her copy of the text *It ripped the settee!*
 Fay! What are you doing?
 Fay [Moving the camera] *She moved it over there so you can't see me!*

Later she attempts to delete herself from the field of view and is prevented from doing so by Jill.

Fay gets up and leaves, taking her work with her.
 Jill- Fay, are you done? Why are you taking your picture with you?
 Fay- To see what else to do.
 Jill- Fay! You've got to be in it [Looks to camera]
 Fay [Reluctantly] *I know that.* [Returns to seat]

Fay's isolation is exacerbated by Kim, who sits between Fay and the rest of the group and acts as gatekeeper. Later in the prototyping phase (D2.17, p.145)

Kim is seen to obstruct Fay's contributions, treating them as an unwarranted intrusion.

Betty then explains that Fay's word **gathering** means **growing**. Instead of placing **growing** on the answer sheet herself, Kim gives it to Fay whose turn it was to solve this word. As she passes Fay the card Fay says *And the first one will be....* The first word (**pessimistic**) is by rights Betty's, but Betty has broken the rules for dividing up the task by solving everyone else's words for them. Nevertheless Kim frowns at Fay and holds her gaze for a couple of seconds to warn her off. Fay has to stand so she can reach across and place the card on the answer sheet. She has said nothing up until this point.

Fay is given the cold shoulder despite, or perhaps because of her efforts to help Kim with aspects of a task she finds difficult. Here Fay is trying to help Kim decide how to illustrate *deteriorated*, but without response (D2.25, p.186).

Kim- *Aye. What can I do?*
Kim notices Barry and Jill whispering about something
Fay taps Kim on the shoulder (right)
You could do a house.
Barry [To Kim]- *Jill's seeing Peter.....*

Fay [Pointing to her copy of the text with her pencil] *You could do the house.*
[Kim, Barry and Jill have a whispered discussion about Barry's indiscretion]
Kim- *Right! What can I do for 'happened'?*



Fay's decline in status as a result of the relocation of the task materials may have been perceived by Kim as a boost to her own fragile position as Jill's enforcer. Through the rigid seating arrangement for this group, Kim is able to regulate Fay's access to the others and thus minimise the potential threat she poses to her status within the group.

15.5.3 Rule breaking and experimentation

Fay violates the group's code and jeopardises her position in the group whenever she makes unilateral decisions based on her own judgement and expertise. Fay, unlike Betty, does not (or cannot) use soft skills to mollify opposition to these moves and so is vulnerable to censure from Jill and/or Kim in particular. She is able to limit these effects when she bolsters her gist understanding of the story with verbatim quotes from the text, especially during the making and retell tasks when these skills are more in demand. She uses the absence of authority figures as an opportunity to assert her independence as a decision maker (e.g. during *squall* and *pulverised* episodes).

15.6 Structural and relational conditions of the dilemmatic space occupied by the group taken as a whole

In the first prototyping session, the group as a whole show a tendency to construct a narrative in response to the materials not the other way round. Instead of transforming the play dough into images that reflect the story, the story is tailored to the colours that are available (D2.1, p.64).

Fay says *The cat should look soaking* and provides Jill with blue dough to make a puddle. Fay then adds *Wasn't it sunny, the day though?* Kim says *Yeah! Where's yellow!* Fay then produces some pink dough- *What could we use pink for?* (Right). The others ignore her and ask for ideas for blocking. Fay produces white and suggests that that could be used for the window. Jill says *Aye, the cat was blocking the window!*



The retell that follows this activity demonstrates how little attention has been given to the text as a coherent meaning-making artefact. Instead, the text is treated as a disparate collection of nouns and verbs to be processed as is indicated by Fay's final *That's done!*

Fay- *It starts with the sun.* (Looks at Kim).

Kim- *I can't explain it* (Puts head in hands).

Fay- *Its started raining like and then the wind came and blew the branches on the trees.*

Kim- *And then it started raining.... And the cat was blocking the window... and the cat was soaking.*

Fay- *That's done!*

This contrasts with the group's approach towards the end of the prototyping period, where the text is used a tool to shape the girls' evolving understanding of the story's central theme. For example, during a word solving task (D2.13, pp.121-4) Jill initially identifies *shivering* as meaning that the character was *cold*, missing earlier references to the warm weather (*summer sun*) and the shocking nature of his recent experience (*as if nothing had happened*). During the making activity that follows, Jill starts by constructing an image of 'someone cold'. However, over the next few minutes she is involved in discussions with Fay and Betty on the dual nature of the cat's character- seemingly innocent (*a cat with an angel ring round its head*) but highly dangerous (*My cat's really scary*). By the time Jill retells her part of the story, references to 'cold' have been dropped

and the surreal nature of the character's experiences, consistent with Betty's retell, is more prominent.



This sequence illustrates the division of labour that evolves within the group over the two week period. Jill's managerial approach, aided by Kim, ensures that the word solving tasks are completed efficiently and that the making activities are completed to time. This eventually became a point of pride for the group, as this comment from Teacher C suggests:

But the girls- the A group- they commented on why it was they finished first and Group D always finish last. They said it's because they don't organise themselves properly because we all read a little bit at a time and then we do this... we all do a little bit of drawing but in that group there's only one person who does the drawing (H2.2, p.333).

Betty's expertise, complemented occasionally by Fay's attention to story structure, ensures that the scope of the group's inquiries in the making activities extend to concepts beyond those within the confines of the target sentences. Betty's focus on meaning, however, is in the service of accuracy and the kudos of 'being right' rather than an exploration of story themes in their own right:

Lily- We talk to like Betty's group and things.
 Teacher C So you were checking your answers with them?
 Lily No, because sometimes Betty says 'Did you get them all right?' and I'll say 'half of them' and she'll say 'half of them' as well and we'll discuss about them and what we've done wrong and things.
 Teacher C Was it important to you to think you'd got it right?
 Lily [Nods]

(H2.1, p.325)

Although speed and accuracy are emphasised throughout, the balance of power within the group shifts as the group transitions from word solving to illustrating story events. Jill and Kim's highly structured approach to word solving is challenged by Betty and Fay's tendency to navigate the task according to their shifting perception as to how the cards relate to key concepts in the story. Although confusing for Jill, the disorienting effect of Betty and Fay's approach interferes with her reliance on the cards and text as aids for navigation and, instead, directs her to the story structure as a means for self-control of attention. Betty's correction of errors in Jill's passage reading also breaks the taboo of trespassing on someone else's textual territory and reinforces the perception of the story as a coherent whole- something that should be a joint object of attention (D2.29, p.204).

Jill's reading contains many simple errors that disrupt meaning (*sense/scene; stuck/struck*). The others ignore these but Betty intervenes when *labrador* is read incorrectly. Both laugh and Jill covers her face and says she doesn't care (Top). After finishing reading she laughs and covers her face again (Bottom). Each reader seems to respect the other's property rights over each paragraph in the text when it comes to 'easy' words, but 'hard' words are becoming fair game.



The move into making story illustrations reverses this relationship. Now Betty and, to a lesser extent Fay, must tolerate the disruptive effect of Kim's constant appeals for help and direction. Again there seems to be a beneficial effect, this time for Betty, in that her own tendency to restrict attention to factual details is foiled by the generalised guidance she must construct for Kim.

Figure 91 summarises in diagrammatic form the structural and relational conditions that have been inferred from the data.

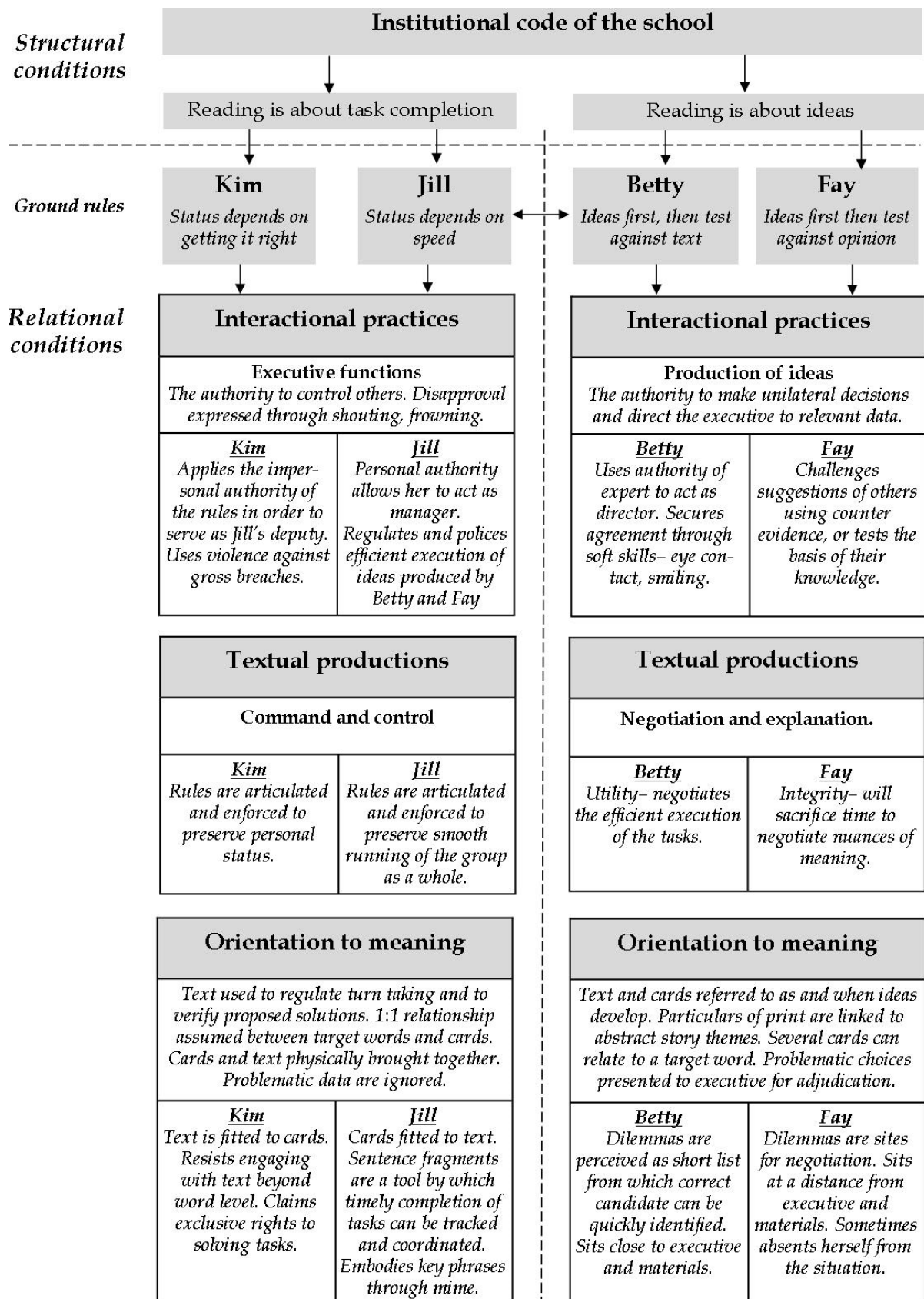


Figure 91 Structural and relational conditions of the dilemmatic space- Group A

Chapter 16 Retrospective analysis of Group D's interaction with the design framework

16.1 Analysis of sampled cases

16.1.1 Week 3 day 1: Squall (Distributed enactment in Groups A,B,D)

Lines 1-8 Ali makes a unilateral decision

Time		Physical		Vocal			Artefactual		
1	5:28			Ali	F	What's the next word? (1.0) Squall	All	Look at text	
						Ali	Looks across at word cards		
2	5:31			Rob		Aye=			
3	5:32			Sam		=What does [that mean?] (1.0) Squ::ll !	Sam	Looks at cards	
4	5:33			Rob	CL	[Dunno] Squall (1.0) That's a word.			
5	5:35	Sam	Looks off camera	Ali	S	By the time we made it home again the rain had started to come down heav (0.5) <u>very</u> heavily. A sudden (4.0)	Ali Rest	Reading from text Looking at Ali's copy of the text, glancing at cards	
6	5:45			Ali	P	A sudden <u>storm</u> ! (0.5)	Ali	Looks at word cards	
						<u>Tore</u> along the street [shook the branches]			
7	5:48			Rob	N	[wouldn't it be]	Ali	Reaches across and picks up the card marked 'storm'	
8	5:49			Sam		[]	Rob	Looks at cards	

The episode begins with the group split into three distinct camps. Ali, who takes the initiative in Line 1- *What's the next word? Squall* then goes on to make a series of unilateral decisions that follow a clear logic. Having located the target word in the text he then reads the target sentence to gather relevant data on meaning and syntax (Line 5). Once he has found a card that he perceives as consistent with this data he then publicises it by making an announcement- *A sudden storm!* and then confirms it by inserting it into the target sentence which he reads aloud- *tore along the street.. shook the branches* (Line 6). Having done this he then picks up and displays his preferred card (Line 7).

Rob and Sam, by contrast, ignore the text entirely. Instead they attempt to formulate an a priori dictionary definition of 'squall' through which they can then locate the correct solution card (Lines 3 & 4). Because their terms of

reference are different, Rob and Sam instinctively look for a counter proposal to ‘storm’ rather than consider the textual evidence Ali has laid before them- *Wouldn’t it be..* (Line 7).

Silent throughout these exchanges is Jim, who closely studies his copy of the text throughout but says nothing.

Lines 9-15 Rob appropriates Ali’s system

Time		Physical		Vocal		Artefactual	
9	5:50			Rob		= IT’S CAR	
10	5:51	Sam	Grabs Ali’s arm, preventing him from placing ‘storm’ on the grid.	Sam	CP	I knaa, it’s <u>car</u> !	
11	5:52			Ali	CG	HOW?	
12	5:53			Rob	CI	TOWED	Rob Takes card from Ali’s hand
13	5:54	Ali	Raises eyebrows and gives shake of the head	Ali		[Never] agree with what I say!	Rob Replaces Ali’s card on table and picks up card marked ‘car’
14	5:57	Rob	Looks at Ali	Rob	A	[TORE] (.) TOWED. CARS GET TOWED	Ali Points to the relevant line in the text and looks at cards
15	5:58	Ali	Nods		SE		Ali Rob Looks at cards Places ‘car’ onto the grid

Rob’s counter proposal mimics Ali’s system, but with minimal direct references to the text. Whereas Ali researched the entire target sentence in the course of his inquiry, Rob’s focus on word definitions leads him to consider a single datum from the text as relevant-here the word *tore*. Rob’s reasons for isolating this particular word are not explained, but it is perhaps significant that it was stressed for emphasis in Ali’s previous reading of the target sentence in (Line 6). Like Ali, Rob then locates a card that is perceived as consistent with this textual fragment and announces it- IT’S CAR! (Line 9). However, Rob does not insert his proposal into the target sentence to confirm its validity as Ali had done. Instead, he cites his evidence- *tore*- then uses assonance to connect it with a ‘synonym’- *towed* which, in turn, is semantically linked to his chosen card- *car*. Hence TORE..TOWED. CARS GET TOWED (Line 14). Although nonsensical as a candidate, *car* is made to sound plausible through a logical sleight of hand achieved by minimising engagement with the text and given authority through the use of a raised tone of voice.

Sam's alliance with Rob is signalled by his unquestioning acceptance of *car* as a candidate before any evidence has been heard- *I knaa, it's car!* (Line 10). He reinforces Rob's challenge by physically restraining Ali (Line 12), enabling Rob to literally disarm him. Rob takes *storm* from Ali's hand (Line 11) and puts it back on the table (Line 13) before placing his candidate *car* on the answer sheet (Line 15).

The dubious logic of Rob's argument, coupled with Sam's use of force, leaves Ali positioned as a victim. He communicates his exasperation at this through his facial expression and tone of voice- *Never agree with what I say* (Line 13), but to little apparent effect. However, rather than make eye contact with Rob and concede the point (Line 14), Ali turns his attention back to the text in order to satisfy himself that the choice of *car* is indeed valid (Line 15). Jim, again, has remained silent throughout.

Lines 16-21 Ali applies his system to Rob's proposal

Time		Physical		Vocal			Artefactual	
16	5.59	Ali	Places hand on chin	Ali	J	YEAH! Off the <u>storm</u> . (1.0)	All Jim	Look at Ali's copy of the text Reads from Ali's text, mouthing the words silently
17	6.02	Ali	Pulls a puzzled expression. Gives a slight shrug.	Ali	CH	The rain had started to come down very heavily. A sudden <u>car</u> (0.5) tore along (7.0)	Ali Jim	Reads from text Looks at cards
18	6.12			Ali		<i>The ()</i>	Ali	Looks at cards
19	6.13			Rob		<i>Heh! Heh!</i> (2.0)		
20	6.16	Jim	Looks off camera to teacher	Ali	CH	A sudden car	Ali Sam Rob	Reading from the text Points to the line in Ali's text Looks at the card on the grid
21	6.17	Ali Jim	Looks at Rob and frowns Glances at Rob	Ali	CL	What does <u>tore</u> [mean?]	Ali Rob	Points to the line in the text Looks at cards

Rather than oppose Sam and Rob directly Ali, instead, changes his position to one of support. His first move is to justify *car* by allying it with his own candidate *storm*, suggesting this as the reason the car was towed away- *YEAH! Off the storm* (Line 16). Next, Ali inserts *car* into the target sentence to confirm his theory (Line 17). All group members, including Jim, orientate to Ali's copy of the text rather than their own suggesting that they perceive the issue as physically located there (Figure 92).



Figure 92 All of Group D attend to Ali's copy of the text (centre)

It is at this point, however, that Ali's attempted compromise comes unstuck—a fact that he signals to the others through his puzzled expression and shrug of the shoulders. He shows willing by trying again and gets as far as reading the first word in the target sentence (Line 18) before Rob laughs (Line 19), probably because he knows the game is up and that *car* is not viable as a substitute for *squall*. At this juncture Jim looks across to where a teacher is standing, possibly in the hope of attracting her attention (Line 20).

At lines 20-21 there is a crossover in the terms of reference being used by each of the two opposing camps. In line 20 Sam joins Ali in reading the target sentence, physically pointing to the words as he does so. In line 21 Ali orients away from the text and towards the dictionary definitions that are privileged by Rob—*What does tore mean?* (Line 21). His frown, directed at Rob, suggests this is meant as a challenge, not a request for information. Ali, therefore, wins credibility for his original selection not by negating Rob's theory but by taking it on and applying it to demonstrate its flaws.

Lines 22-30 Sam appropriates Ali's proposal 'storm'

Sam reads the target sentence from Ali's text, not his own, and inserts Ali's original suggestion *storm* into it (Line 22). Ali seizes the opportunity to forge an alliance by completing Sam's reading of the target sentence and providing a justification based on the setting in that part of the story—*chuckin it* (Line 23). Sam and Ali mirror each other's actions, both pointing at Ali's copy of the text with their fingers. At this juncture Rob's proposal *car* is finished, and this card

is discarded (Line 26). However, Sam now proposes the dilemmatic candidate originally intended by the researcher- *wind* (Line 25) and assumes leadership of the task, with the others more or less acting as spectators.

In a reversal of roles, Rob acts as Sam's enforcer, putting his finger on *wind* to mark its imminent selection (Line 25); Ali looks at Sam (Line 25) and Jim seeks eye contact with Sam (Line 27) as they await his decision. However, in a surprise move that is unexplained, Sam reverts back to Ali's original proposal of *storm*, picking up this card and not his own candidate *wind* (Line 28). Rob shows his support by pointing to the card (Line 28) and Ali gives a repeat endorsement- *It's storm! It's storm!* (Line 29).

Time		Physical		Vocal		Artefactual	
22	6.18	Ali	Glances sideways at Sam	Sam	CH	[A storm] tore along the street and shook the (0.5) tops of (0.5) the br::anches=	Sam Ali Points to words as he reads from Ali's text Also points to text
23	6.25	Ali	Glances sideways at Sam and grimaces	Ali	J	=branches in the trees violently (0.5) It has to be a storm because (..) chuckin it (.)	Sam Points at text as Ali talks
24	6.31			Ali	N	It <u>couldn't</u> be car!	Ali Points emphatically at text
25	6.33	Ali	Looks at Sam	Sam	P	Wind (1.0) wind	Rob Puts finger on card marked wind
26	6.35			Sam	CN	A sudden wind (1.0)	Sam Rob Reading from the text Removes 'car' from grid and tosses it aside
27	6.37	Sam Jim	Looks off camera Glances at Sam	Sam	RP	Storm (1.0)	Rob Sam Places hand near card marked 'wind' Picks up the card marked 'storm'.
28	6.39			Ali	N	A sudden (0.1) No	Rob Takes hand away from 'wind' and points to 'storm' card that Sam is holding.
29	6.40			Ali	RP	It's storm (0.5) It's storm	Ali Takes card marked 'storm' from Sam's hand
30	6.42	Sam Jim	Makes eye contact with Rob Looks off camera	Sam	SE	Heh! Heh!	Ali Jim Rob Places 'storm' on the grid Looks at Ali's copy of the text Puts hand back on 'wind'

A possible reason for this puzzling course of events is suggested by Ali, Sam and Rob's actions in the final line of the episode (Line 30). The card *storm* that Ali places on the answer sheet is no longer 'his' but has been reselected and endorsed by Sam. Rob, probably aware of the strong counter claim of *wind*, places his hand back on this card suggesting he is going to raise this point with the group. As he does this, Sam makes eye contact with him and laughs with pleasure at his achievement. Seeing this, Rob leaves his hand on the card but makes no challenge. Jim, meanwhile, remains detached from the group and looks off camera.

Through seeming to side with the authority of the text rather than siding directly with Ali, Sam succeeds in gaining kudos for the decision whilst, at the same time, preserving his alliance with Rob. In other words, through his magnanimity Sam gains credit for a decision that arose largely through Ali's persistence. Sam's opportunism is successful in bolstering his position as leader of the group despite his limitations as a reader.

To summarise, at the beginning of the episode there are two separate performances occurring on two separate stages, thus leading to a false start. Ali's inquiry script is ignored by Rob and Sam who are busy trying to establish if the word *squa:l* is real or not. The episode proper starts when they are alerted to Ali's attempts to finalise the matter without them.

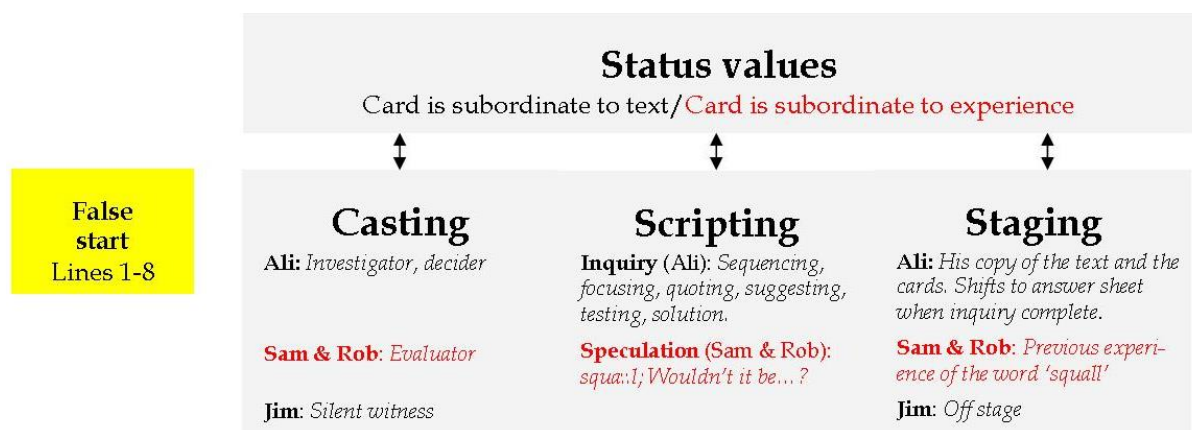


Figure 93, overleaf, summarises the evolution of the micro-ecology during the remainder of the episode. Its initial state centres on a physical struggle for control over the card that Ali is holding and about to place on the answer sheet. In order to justify this assault on Ali, Rob authors a new version of the story to which his preferred card '*car*' could be fitted. With Sam acting as Rob's enforcer, Ali is disarmed of his card '*storm*' and shouted down. Ali adjusts his role to that of victim, but gets no sympathy from his attackers or from Jim, the silent witness.

The matter may have ended there if Ali had not then put on a pantomime for the group. The intermediate state of the micro-ecology is a pseudo-inquiry, staged by Ali, for the purposes of showing what they had missed during the false start. As he tests Rob's proposal he exaggerates his bewilderment for the benefit of the audience whilst Rob, playing the panto villain, confesses all by sniggering. This is a signal for Sam and Ali to swap roles. Sam starts to mimic Ali's analysis script and Ali begins to speculate about Rob's suggestion.

The final state is reached when Sam replicates Ali's inquiry script with Ali, not Rob, acting as his seconder. In going through the motions, Sam stumbles upon the dilemmatic candidate '*wind*' which Rob appropriates for himself. Sam cheats Rob by ratifying '*storm*' as the valid solution and also cheats Ali of his original idea. His victory laugh at the end of the performance is the same as Rob's earlier villainous one.

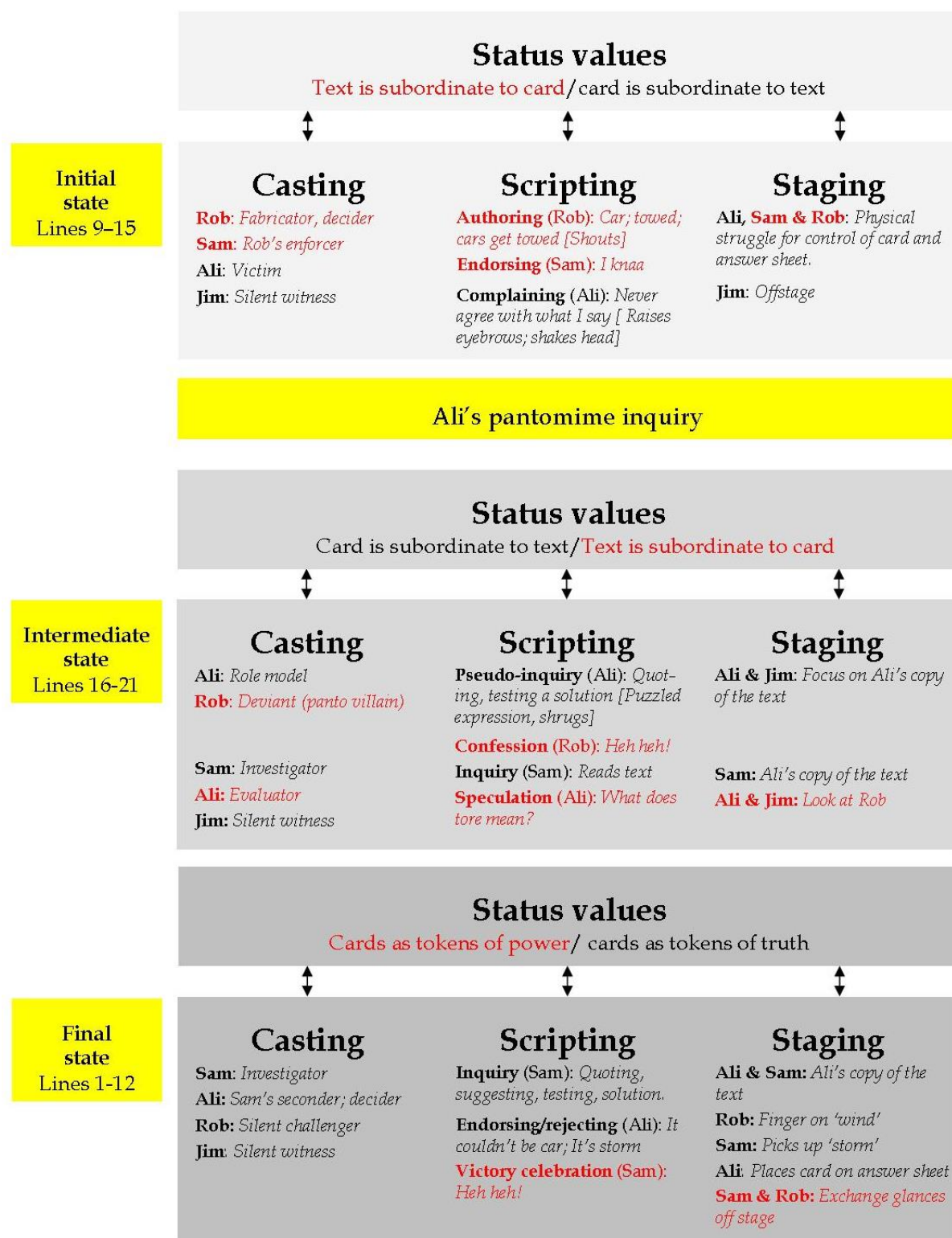


Figure 93 Microgenesis of interpretive dilemma- *Squall*, Group D

16.1.2 Week 3 day 2: Pristine (Isolated enactment in Group B)

Lines 1-5 Ali makes a unilateral decision

Time		Physical		Vocal		Artefactual	
1	2.27			Rob		All	Look at their copy of the text whilst Rob reads. He does not use his finger.
2	2.32			Ali	P	Ali	Snatches up organised and places it on his text.
3				Rob		Rob Ali	Tries to continue to read Holds card and points to the target sentence in his text.
4	2.41	Ali	Glances across at Sam	Ali		Ali Rob Sam	Holds card up and points to text Stops reading and looks at Ali Continues to look at text
5	2.45	Rob & Sam	Look at Ali	Ali	CN	Ali	Reads pointing to text with his finger

Rob is in mid flow, reading the second paragraph of the text (Line 1), when Ali snatches up *organised* and shouts over him to propose this card as a solution for *pristine* (Line 2). Ignoring this breach of etiquette, Rob continues to read whilst Ali holds the card for the others to see and points to the target sentence in his copy of the text- *Look! Sam!* (Line4). Rob stops reading at this point but Sam continues to stare at his copy of the text ignoring Ali's interjection. Finally Sam looks up and he and Rob make eye contact with Ali as Ali tries to persuade them that his proposal is correct by citing from the text- *He normally liked everything to be tidy* (Line 5).

Lines 6-10 Sam and Rob concur

Time		Physical		Vocal		Artefactual	
6	2.47			Sam			
7	2.49			Ali			
8	2.52			Sam			
9	2.54	Rob	Laughs	Rob	SE	Rob	Takes card from Ali and places it on sheet.
10	2.55	Ali	Looks at Sam	Ali			

Sam shouts over Ali before he can finish talking in much the same way as Ali has just done with Rob- I KNAA MAN! I KNAA::! (Line 6) and both he and Rob tell Ali to hurry up and make the selection. Sam does so in raised tones WELL PUT IT IN THEN! whilst Rob uses laughter and a normal voice, possibly in an attempt to calm things down- *Just put it on!* (Line 9). As he says this, Rob relieves Ali of *organised*, places it on the answer sheet and then continues to read the rest of paragraph two. This time Rob points with his finger as he reads in order to maintain focus whilst Ali continues to talk over him- *But we haven't even discussed it!* (Line 10). Despite his insistence that he has identified the correct solution- *Has to be organised!* (Line 2), Ali's understanding of protocol requires him to actively invite opposition from his peers as a matter of course. In other words, he recognises that his certainty may be misplaced and that others may see competing dilemmatic possibilities that he cannot, in this case the cards marked *clean* and *white*.

Lines 11-16 Sam and Rob terminate the inquiry

Time		Physical		Vocal		Artefactual	
11	2.56			Rob	[from school he'd ask Jade and [I how our day had been and help us with our homework].	Rob	Resumes reading without waiting for Ali to stop talking, pointing to each word with finger as he reads.
12				Sam	[IT DOESN'T MATTER, COS WE KNOW WHAT IT IS]	Sam	Adjusts position of 'organised' on the answer sheet and then points to it
13	2.59	Ali	Ali Rolls eyes then pull a face at Sam				
14	3.00			Ali	OK Mr clever dogs!	Ali	Drums table and scowls at Sam.
15	3.02			Sam	YOU'RE ON RECOR::D!		
16	3.05	Ali	Smiles and waves at				

Rob continues to read aloud from the narrative (Line 11) and pays no further part in the discussion. Sam, unlike Ali, insists that the inquiry process can be terminated once a viable candidate has been found- IT DOESN'T MATTER COS WE KNOW WHAT IT IS (Line 12). His raised tone throughout the episode communicates impatience with what he perceives as unnecessary prevarication and strongly militates against any deliberation on Ali's part. Hence, even

though his proposal was successful, Ali is unhappy with the way the selection was executed and rolls his eyes in protest (Line 14). Ali then uses humour to defuse the standoff- *OK Mr Clever Clogs*- to which Sam responds by reminding Ali of the camera's presence- *YOU'RE ON RECORD!* (Line15).

Figure 94, overleaf, summarises the evolution of the micro-ecology during this episode. Although all the boys are looking at the text, the initial state is split between two stages. Sam and Rob's attention is focussed on the imaginary world of the story; Ali is focused on the concrete world of the task materials. When Ali carries out his inquiry he is apparently unaware that he is stealing the scene from Rob and breaking the spell, despite Sam's refusal to look up.

The intermediate state is entered when Ali demands an audience. Sam, annoyed at the interruption, acts as oppressor and delivers a shouted put-down designed to keep Ali in his place- *I KNAA*. However, Sam has misread Ali's motives. Ali is not aspiring to the role of decision maker, but is agitating for the need to discuss his proposal. Rob's peacemaker script, by contrast, is much softer and lighter in humour. To him the physical confrontation is not as compelling as the narrative and he returns to the text's imaginative world as soon as he can.

This leaves Sam and Ali centre stage in a stand-off which is left unresolved. Sam literally holds his ground by monopolising the answer sheet. Ali knowing he is outnumbered and out gunned has to concede, but does so in a way that makes it clear he has not conceded. His clown act saves face behind a superficial sheen of deference- *OK Mr Clever Clogs!*

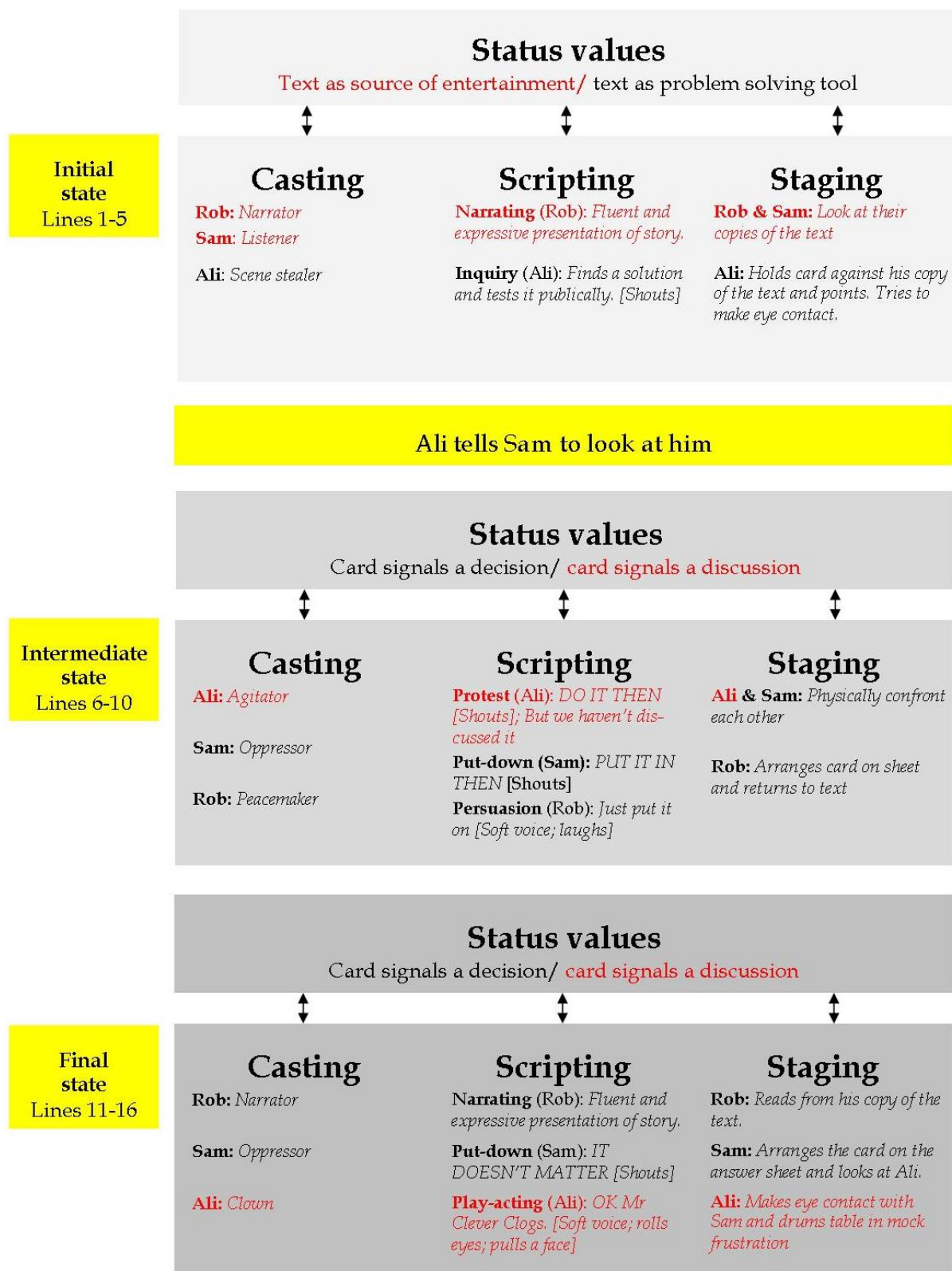


Figure 94 Microgenesis of the interpretive dilemma- Pristine, Group D.

16.1.3 Week 4 day 2: Conscience (Distributed enactment in Groups A, C, D)

Lines 1-8 Agreeing a focus

Time		Physical		Vocal			Artefactual	
1	1.15						John	Finishes reading the first paragraph
							Jim	Has the cards laid out in front of him. This means he has to hold his text up in front of him throughout. He scans the cards.
2	1.18			Jim	P	My tent	Jim	Looks down at the cards
3	1.19			Ali	F	Wait! We doing this one?	Ali	Points at paragraph one.
4				Rob		Erm.	Rob	Points at Ali. Looks down at text
5	1.21				S	When I struggled [with my	Rob	Reads from text pointing with finger
6	1.22	Jim	Tries to make eye contact with Rob	Jim	F	[We're doing (.) We're doing number two.	Jim	Points to his text and prepares to read
7	1.23			Rob	F	Aye but we're doing this	Rob	Points to paragraph one in his text
8	1.25			Jim		Right	Jim	Looks at text

Jim's intent to control the pace and execution of the task is signalled by his positioning of the cards, which are laid out so close to him that he is unable to place his copy of the text on the table (see Figure 95, overleaf). Jim scans the cards whilst John is reading and says aloud '*my tent*' signalling to the others his proposed solution for the target word *conscience*. This wrong-foots Ali who, contrary to his earlier behaviour, expects the text to be read in its entirety before solving a word. He attempts to clarify the agenda by pointing to paragraph one - *Wait! We doing this one?* (Line 3). Rob, taking this as a cue to solve the first target word, points at Ali to signal his agreement and then inspects the text, reading aloud a fragment of the target sentence (Line 4 & 5). This is contrary to Jim's wishes because Jim is waiting to read paragraph two. He points to this paragraph in the text and tries to make eye contact with Rob in order to stop him- *We're doing number two* (Line 6). Rob calmly points again to paragraph one and reasserts the agenda he and Ali have agreed- *Aye but we're doing this* (Line 7). Jim assents and the group are now jointly focused on solving

the first target word. What is interesting in this sequence is the absence of any comment from John. As it was John who read this paragraph, he might be expected to take on responsibility for planning and executing this task but, instead, he remains silent.



Figure 95 Jim (*centre with pencil under nose*) dominates the cards, flanked by Rob (*left*), John (*far left*) and Ali (*right*).

Lines 9-30 Concrete versus abstract referents for 'conscience'

At the start of this sequence all of the group apart from Rob are focussed on the text, not the cards (Lines 9-10), suggesting Rob's ability to make decisions without direct reference to the concrete particulars of print. This conjecture is supported by his interpretation of *conscience* as referring to *sadness* (Line 9). Rob's proposal transcends the physical setting depicted in the story (school camp) and addresses wider themes that are developed in the ongoing narrative (the character's anxiety about his family). These themes are not referred to directly in the target sentence that Ali reads out (Lines 10 & 12), leading Jim to negate Rob's suggestion- *No. It couldn't be sadness. I think it's tent* (Lines 13-14). Jim, who is closest to the cards, puts his finger on *tent*, makes eye contact with Ali and proposes this card again (Line 14). It is significant, perhaps, that Jim and Rob do not make eye contact with each other but address their comments to Ali, positioning him in the role of arbitrator. Rather than read the target sentence himself, Jim makes a direct appeal to Ali to disprove Rob's proposal of *sadness*- *Look! Look! Read it properly* (Line 16). Ali complies, inserting Jim's candidate *tent* into a fragment of the target sentence (Lines 18 & 20).

Time		Physical		Vocal			Artefactual	
9	1.28			Rob	P	As I [struggled with my sadness	Rob	Looks at cards
10	1.30			Ali	S	[our families, our computer games and our pets... I struggled with my=	Ali J&J Rob	Reads from text Look at text Looks at cards
11	1.33	Rob	Tries to make eye contact with Ali	Rob	RP	= sadness		
12	1.39			Ali	CH	I struggled with my (0.5) sadness	Ali Others	Reads Look at cards
13	1.43	Jim	Makes eye contact with Ali	Jim	N	No, it couldn't be sadness		
14	1.44				CP	I think it's (0.5) tent=	Jim Rob John	Looks at cards Looks at cards Looks at text
15	1.45			Rob	N	=No! It wouldn't be <u>tent!</u>	Jim	Touches 'tent' but doesn't pick it up
16	1.46			Jim		Look! Look! Read it properly	Jim	Waves his text at Ali as a gesture for him to read.
17	1.47			Rob	J	If they're in the car!		
18	1.48	Jim	Tries to make eye contact with Rob	Ali	CH	I struggled [with my <u>tent!</u>	Ali John	Reads from the text Reads from the text
19	1.49			Jim	CG	[W (.) W(.) Where's it say he's in the car?	Rob	Looks at text
20	1.52	Jim	Continues to try and make eye contact with Rob	Ali	CH	I struggled with my (1.0) tent as we (0.5) sang our happy songs	Ali Rob	Reads from the text Looks at cards
21	1.59	Jim	Makes eye contact with Ali	Jim	D	W (.) W(.) W(.) What do you struggle with? (0.5) It'd be (..) Like it's heavy	Rob & John	Look at text
22	2.01	Jim	Jim motions to indicate a strap over his shoulder than bangs fist twice on the table					
23	2.03			John	CH	I struggled with my <u>sadness</u>	John	Uses his finger as he reads
24	2.06	Rob	Tries to make eye contact with Ali	Rob	D	Sadness makes more sense	Jim	Looks at text
25	2.08			Jim	CH	I struggled with my sadness as we [sang our happy] songs	Jim	Reads then looks at cards
26	2.10			Ali	CP	[I've got it!]	Ali	Taps his finger on 'I've got it' and then looks at text.
27	2.13	Ali	Looks up at Rob whilst reading		N	No	John	Looks at text
28	2.15				S	I struggled with my (..)	Ali	Reads then looks at cards
29	2.16	Rob	Tries to make eye contact with Ali	Rob	BP	Or it could be [guilt	Ali	Looks at cards
30	2.17			Jim	S	[I struggled with my=	Jim	Holds text in front of his face as he reads

Sensing that he is losing the initiative, Rob cannot cite concrete evidence in support of his own theme-based proposal and so, instead, distorts the story in an attempt to negate Jim's proposal- *If they're in the car!* (Line 17). Jim seizes on this error and tries to make eye contact with Rob to push home his challenge- *Where's it say he's in the car?* (Line 19). Jim now has the option to follow suit and cite evidence in the text that negates Rob's suggestion of 'sadness'- *I struggled with my tent as we sang our happy songs* (Line 20). Instead, he cites a word in the target sentence that supports his proposal of *tent*- '*struggled*'- and mimes how these two words can reasonably be connected- *What do you struggle with? It'd be... Like it's heavy* (Figure 96, below). Jim then makes eye contact with Ali and bangs his fist on the table to force this point home.



Figure 96 Jim realises 'struggled' in concrete form

At this juncture Rob is in a weak position. He has no comparable concrete evidence in the target sentence though which he can justify his own proposal or substantiate a challenge of Jim's proposal. Surprisingly it is John, silent up until now, who comes to Rob's rescue by again inserting Rob's proposal *sadness* into the target sentence- *I struggled with my sadness* (Line 23). Rob makes eye contact with Ali and repeats his proposal- *Sadness makes more sense* (Line 24) and Jim then follows John's example by inserting *sadness* into the target sentence himself (Line 25). That Ali is unconvinced by either argument is indicated by his counter proposal '*I've got it*' which he then quickly rejects (Line 27). In the meantime Rob articulates the interpretive dilemma that was designed into the

task materials- *Or it could be guilt* (Line 29) but this is drowned out by Jim's rereading of the target sentence (Line 30).

Lines 31-53 Standoff between Jim and the rest of the group

Ali, as the designated chairman, initially favours Jim's concrete interpretation of *conscience*, but puts forward his own proposal *seatbelt* (Line 31) which then Rob laughs off (Line 32). At this, Ali switches his attention to Rob's abstract proposal *sadness*, but John makes a counter proposal before he can test it (Line 34). John's candidate *experience*, which is in sympathy with Rob's focus on feelings and emotions, infuriates Jim- NO MAN! READ IT PROPERLY! (Line 35). Rob defends Ali- *He did!* (Line 36)- and Ali then reads the target sentence with *sadness* inserted- *I struggled with my sadness as we..* (Line 37), holding this card in his hand as he does so. Rob interprets this move as indicating an imminent decision and so allocates the task of drawing this word to John- *John! You draw that... Sadness* (Line 38).

John, Rob and Ali now all show signs of accepting *sadness* as the preferred candidate. However, Jim's repeated requests that Ali '*read it properly*' express his continued opposition to the notion of abstract nouns as possible objects of the verb '*struggled*'. He again signals this to the group in Line 39- *It doesn't make sense though*, and enlists Ali to help him find a suitable candidate. The word *unsuccessfully*, which Jim asks Ali to clarify (Line 40) fits neither the grammar nor the meaning of the story and is a seemingly nonsensical choice. However, if one limits oneself to a consideration of words in isolation from the target sentence, then his choice can be understood as a reasoned one. *Unsuccessfully* is consistent with *struggled* in the sense that both words connote striving without success, much as Jim had modelled in his mime (Line 21)- hence the certainty of Jim's appeal- AYE! THAT MAKES SENSE! READ IT! LOOK! Rob makes eye contact with Ali and says something inaudible, after which Ali forcefully rejects Jim's proposal- IT DOESN'T MAN! (Line 47).

Time		Physical		Vocal			Artefactual	
31	2.22	Ali John	Glances at Rob Looks at Ali	Ali	P	= <i>seatbelt</i>	Ali	Points to 'seatbelt'
32	2.23			Rob	N	No. Not seatbelt. Heh heh!	Ali	Look at cards
33	2.25			Ali	SE	Sadness	Ali Rob	Reaches for 'sadness'. Points to it
34	2.26			John	BP	Experience!	Ali	Puts sadness on the answer sheet but continues to hold it
35	2.29	Jim	Tries to make eye contact with Ali	Jim	CG	NO MAN! READ IT PROPERLY!		
36	2.30			Rob		He did!		
37	2.33			Ali	CH	I struggled with my [sadness as we	Ali	Continues to hold 'Sadness' over the answer sheet as he reads
38	2.34	Rob	Makes eye contact with John	Rob		[John! You draw that. (1.0) Sadness.		
39	2.37	Jim	Makes eye contact with Ali	Jim	N	It doesn't make sense though.		
40	2.39				CL	What does that say?	Jim Rob	Points to 'unsuccessfully' Looks at cards
41	2.42			Ali	CL	Unsuccessfully	Ali	Pulls 'unsuccessfully' towards him so he can see it
42	2.43			Rob		Unsuccessfully		Puts unsuccessfully back with the other cards
43	2.44			Jim	P	AYE! THAT MAKES [SENSE! READ IT! LOOK!	Jim Ali	Slides 'unsuccessfully' back towards Ali Puts hand on 'unsuccessfully'
44	2.47	Rob	Looks at Ali and then points at him.	Rob		[]		
45	2.48	John	Tries to make eye contact with Rob	John		[Er (0.2) [I'll draw] a (.) sad face		
46	2.50	Ali John	Makes eye contact with Jim Looks at Jim	Ali	N	IT DOESN'T MAN!		
47	2.52				CH	I struggled with my <u>unsuccessfully</u> as we sang our happy songs and told jokes	Ali R& J	Reads then looks up to make eye contact with Rob Look at text
48	2.55	John	Stands up	John		John I'll get the pencils		
49	2.57	Ali	Makes eye contact with Jim	Ali		Jim. You think that things that don't make sense make sense	Jim	Reads text and mutters
50	3.01	Rob Ali	Exchanges a glance with Ali Taps table with knuckle				Ali	Slides 'unsuccessfully' back with the other cards.
51	3.06	John	Returns with teacher and pencil	Teacher		Alright?		
52	3.07			John		Aye	Ali	Looks at text
53	3.08			Jim	S	I struggled with my	Jim	Continues to hold text to his face

To help Jim understand the decision, Ali rereads the target sentence again with *unsuccessfully* inserted, looking to Rob for support as he does so (Line 47). Ali attempts to help Jim further by trying to articulate the difference in perception between Jim and the rest of the group- *Jim. You think of things that don't make sense* (Line 49). The calm voice used here matches previous instances where Ali has tutored Jim's reading and is supportive rather than mocking in tone. Even so, Jim holds his copy of the text and up to his face and does not respond (Line 49). Ali and Rob exchange glances, but at that moment a teacher, alerted by the shouting, comes over to ask the group if everything is alright (Line 51). After the teacher leaves Jim continues to make no comment other than to read the target sentence again and shuffle the cards restlessly (Lines 53).

Lines 54-61 Defusing the standoff

Time		Physical		Vocal			Artefactual	
54	3.10						John Jim	Distributes pencils. Holds text to his face and mutters as he reads. Looks down and begins to sort through the cards.
55	3.12						Ali	F
56	3.13			Rob		Jim		
57	3.15	John & Rob	Make eye contact with Ali	Ali		Right! So John, you're going to do number one picture, I'll do number three	Jim Ali	Continues to hold text to his face Points to John with pencil
58	3.20	Jim	Looks at John	John		Do I have to show (0.5) do I have to show a sad face?	John	Motions with his pencil towards the answer sheet
59	3.24	Rob	Puts head in hands	Rob		We'll figure it out at the end		
60	3.26			Ali		Right! Jim! Read!	All	Look at text
61	3.27			Jim		The farm was brilliant	Jim	Starts to read para two. Others follow on their copy of text

Although it is clear that the majority of the group now support the proposal of *sadness* Ali has still not placed this card on the answer sheet. Recognising that Jim is still unhappy and possibly preparing for another counter proposal, Ali does two things designed to defuse the situation. First, he announces that the group is moving on to the next paragraph in the text which is to be read by

Jim- *Who's reading number two?* (Lines 55-56). At the same time, Ali throws a pencil to Jim which Jim picks up, thus occupying his free hand and preventing him from fretting over the cards as before. With his other hand, however, Jim continues to hold his copy of the text in front of his face, until John's description of the drawing he will make causes Jim to look over at him (Lines 58-59). Seeing this, but without making eye contact, Ali stops giving instructions to John and orders Jim to read- *Right! Jim! Read!* (Line 60). The spell broken, Jim starts to read the second paragraph in the text.

To summarise, at the start of the episode Jim has arranged the objects in the micro-ecology so he is as physically close to the stage (the cards) as possible. He then clears the stage of unnecessary distractions by holding his copy of the text up to his face, filling his field of vision. As a result, he forgets the ratified protocol- that the entire text should be read before any words are solved. His proposal of '*tent*' therefore derails the script the others are working to. Ali steps in as coordinator and confirms with Rob that they are going to proceed with Jim's script. Rob assents and starts the inquiry, at which point Jim realises his mistake and tries to restore the protocol he broke- *We're doing number 2-* but too late. After this false start, all are now aware of the new order created by Jim's blunder and the performance can proceed.

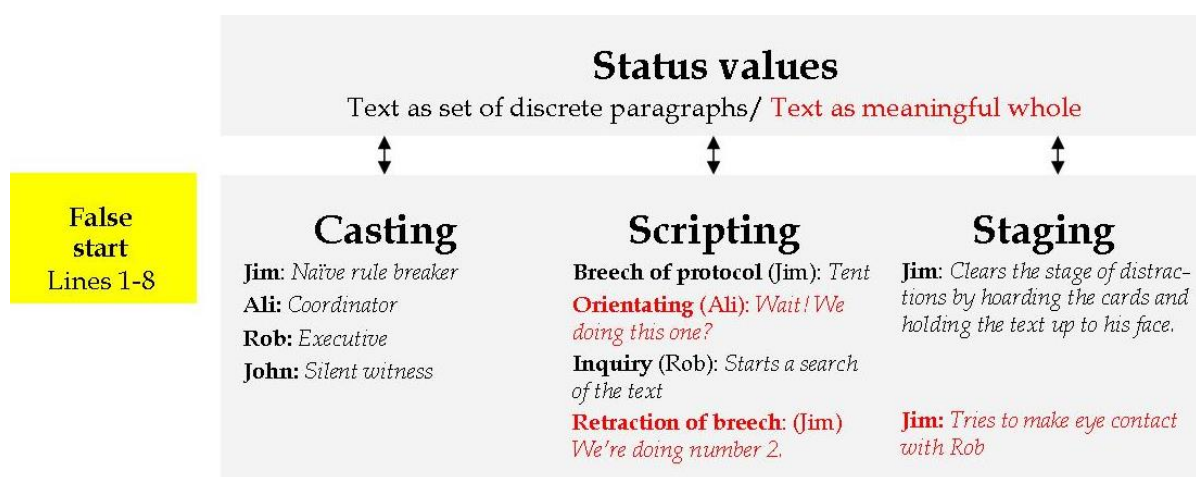


Figure 97, overleaf, summarises the evolution of the micro-ecology during the remainder of this episode. The initial state of the micro-ecology is a staging of opposed epistemologies. Ali, Jim and John orient to the concrete particulars of the target sentence containing the problem word- Rob's stage is the cards, back-grounded by the imaginative world presented by the story. Ali tests his own speculative suggestion of '*tent*' but is unsure due to the lack of corroborating evidence in the sentence. This is what Jim is referring to when he tells Ali to '*Look*' and to '*Read it properly*'- if Ali can't find a word directly corresponding to '*sadness*' in the sentence then it cannot be considered valid. Rob tries to pull the wool over Jim's eyes by re-authoring the story, but Jim rightly calls his bluff. Jim then mimics Rob by making up a story of his own, this time performed in mime. Both 'false' narratives, one ideal and one real, compete in the space and Ali in the role of arbitrator is unable to choose. John enters the performance at this stage by reading from the text as a way of supporting Rob's proposal of '*sadness*'- an indirect strategy much safer than making eye contact with Jim.

The intermediate state is triggered by Rob's identification of '*guilt*' as another likely candidate. Along with John's sympathetic suggestion of '*experience*', the weight of evidence shifts in Rob's favour and he and John retire to a side stage where they plan their drawings. This leaves Ali alone and centre stage with Jim whose die hard defence of his realist position becomes more desperate as time goes on. He seems to be clutching at straws but, seen from his absolutist perspective, his script in support of '*unsuccessfully*' makes sense and his frustration understandable. Ali, who cannot understand Jim's performance, first shouts and then softens his tone. Ali starts to coach Jim whilst John, realising a crisis point has been reached, exits and returns with a teacher.

The final state of the micro-ecology is engineered by Ali to be as emotionally flat as possible. The script moves away from opinion to tasks and logistics- the stage from present to future. This is successful in luring Jim from behind his protective screen and the group are able to proceed with the next task.

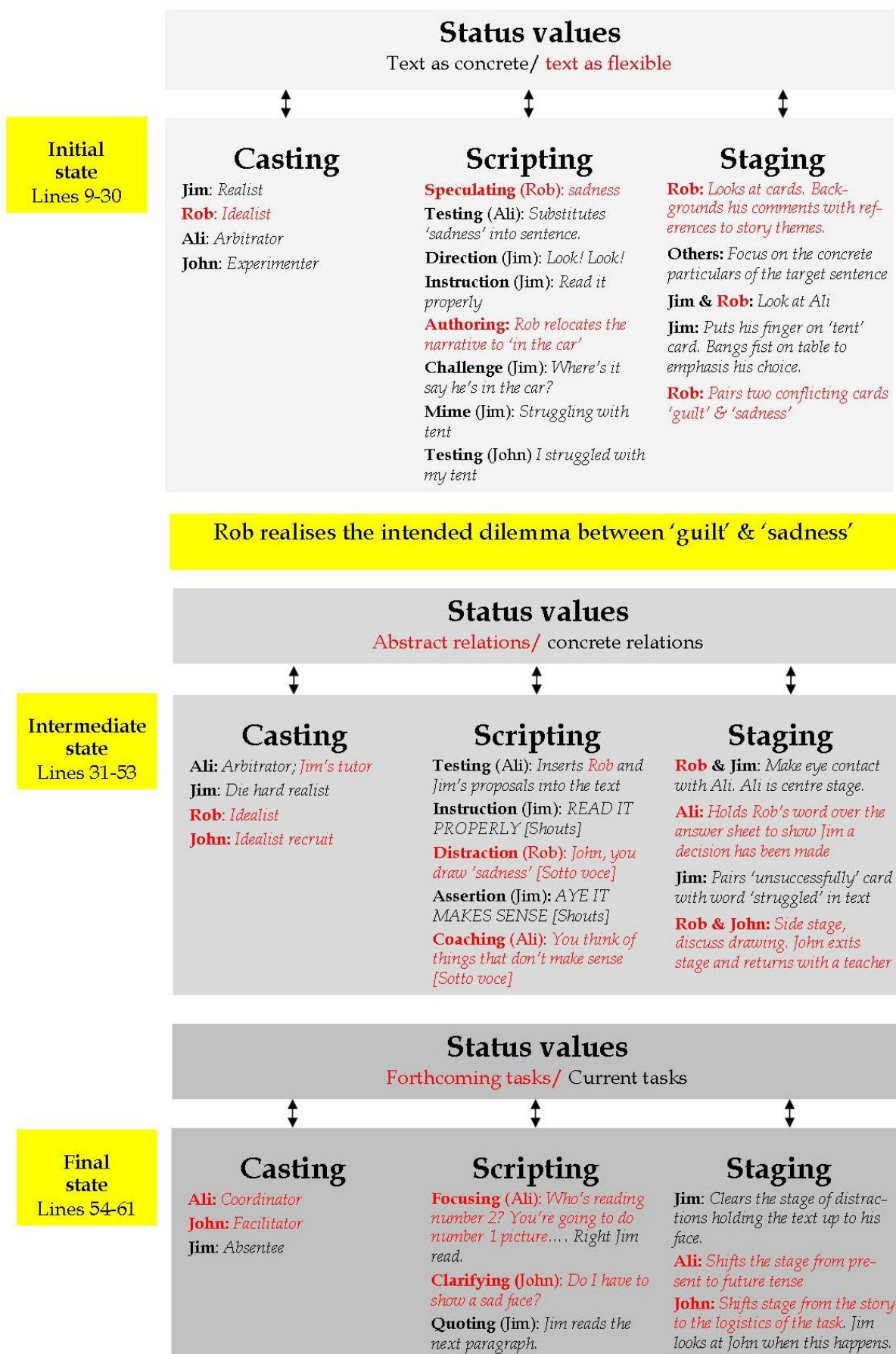


Figure 97 Microgenesis of interpretive dilemma- Conscience, Group D

16.1.4 Week 4 day 2: Distraction (Isolated enactment in Group C)

Lines 1-7 A dictionary based approach

Time		Physical		Vocal			Artefactual	
1	8.40			Ali	S	The farm was just what I needed after the last few weeks. The work we had to do was hard, but it was a welcome dis-	Ali Jim	Reads from text and taps pencil against his head as he does so. Follows on his copy of the text
2	8.51			Ali	A	Distraction. (.) That means (1.0) Like (1.0) <i>Disturbing ya</i>	Rb&Jn Jim	Look at cards Continues to read from his copy of the text
3	8.57			John		<i>Like</i> (0.2) <i>To interrupt</i> (1.0) Like you're putting them off by doing something.	Jim	Now looks at cards
4	8.59	Rob	Leans forward so he can see what Ali has chosen and frowns		CH		Ali	Picks up 'guilt' and holds it to his forehead as he reads the text
5	9.01			Rob	N	Nah. (1.0) Not guilt	Rob John Jim	Looks at his copy of the text Looks at text Continues to look at cards
6	9.06			John		It [doesn't make sense	Ali Rob	Replaces 'guilt' on the table. Looks at cards
7				Jim		[Work we had to do was	Jim	Hold text up to his face and reads aloud

Ali takes the initiative by reading aloud the target sentence (Line 1) and then attempting to formulate a dictionary definition of *distraction* (Line 2) which is matched by an alternative definition from John (Line 3). Both definitions emphasise a school culture where *distraction* has negative connotations- *disturbing ya* (Line 2) *putting them off* (Line 3). Ali's choice of *guilt*, therefore, is geared to match these attempts at dictionary definitions rather than the reading of the text with which he started the episode. The fact that Rob frowns (Line 4) suggests that he knows this candidate is invalid without needing to return to the text. Nonetheless Ali, Rob and John read the text silently to themselves and, as a result, *guilt* is rejected. Jim remains detached from this activity, silently reading the text and checking the cards for himself. When he does eventually join the discussion, he reads out the target sentence again whilst holding the text close to his face so it fills his vision, making eye contact difficult (Line 7).

Lines 8-12 Competing text- based solutions

Time		Physical		Vocal			Artefactual	
8	9.08	Rob	Glances at Jim	Rob	P	A welcome (.) <u>escape</u> (1.0) from (.) my troubles	Jim	Continues to read from his copy of the text
9	9.12			John	CP	A welcome experience!	John	Points across the table to ‘experience’.
10	9.15	Rob	Glances at John then addresses Jim	Rob	CH	A welcome escape from my troubles	Jim Ali	Continues to read text and does not look up Reads text
11	9.19			John	CH	A welcome experience	John Ali	Continues to point at card Reads text
12	9.25				SP	Or escape		

Ali and Jim now withdraw from the conversation and devote their attention to silent reading of the text (Lines 8-11). Meanwhile Rob and John both select competing interpretations of *distraction* following Jim's rereading of the target sentence. Rob's selection *escape* fits both the meaning of the story and the grammar of the sentence, which he demonstrates by his inserting it into the target sentence (Line 8). Rob tries to recruit Jim's support on two occasions (Lines 8& 10), possibly because it was his reading of the text that started this sequence. John's counter proposal *experience* also fits the meaning of the story (i.e. the holiday was a welcome experience) but is more awkward grammatically, possibly explaining why his rereads of the target sentence are so limited by comparison- *A welcome experience* (Lines 9 & 11). Superficially, John's suggestion sounds just as plausible as Rob's, but only because the terms of reference have been narrowed to make this so.

Lines 13-21 A gist based approach

When Jim and Ali turn their attention back to the discussion, they each negate a different proposal. Jim discounts *escape* but gives no reason for this (Line 13). Ali dismisses *experience* not by referring to the grammar of the target sentence, but on the basis of a priori definition- *Distraction doesn't mean experience* (Line 14). In other words Ali rejects the right candidate for the wrong reason. Jim then turns his attention back to the text to carry out more research, which he continues up until the end of the episode.

Time		Physical		Vocal			Artefactual	
13	9.27	Jim	Looks at Rob	Jim	N	It's not [escape		
14		Ali	Leans back on his chair	Ali	A	[Distraction doesn't mean experience	Jim	Continues to read
15	9.30	Rob	Frowns at Ali	Rob	J	You <u>escape</u> from your troubles.	Jim	Continues to read
16	9.34	John	Rubs his forehead in frustration				Ali	Reaches for escape and then changes his mind
17	9.38			John	N	Well it could be (0.2) No (.) It's not experience	Jim	Continues to read
18	9.47	Rob	Seeks eye contact with Ali	Rob	J	Escape means he's got away from it and he's got away from the cat (0.5) The cat's his trouble. (.) Escape means he's got away.	Ali Jim	Holds up 'escape' in front of his face and stares at it. Continues to read
19	9.57			John	RP	Aye. Escaped	Ali	Can't reach the answer sheet John tries to help him.
20	10.03				SE		Ali	Places escape on answer sheet
21				Jim	CH	Wait there!	Jim	Reads his text silently. The others pause then continue with the story.

In response to Jim's opposition, Rob reverses the established pattern of moving from the concrete (i.e. readings of the target sentence) to the abstract (forming a theory about meaning), possibly in recognition that this approach has limited ability to separate closely matched options. Instead, Rob develops his argument around the word '*troubles*' which is found at the end of the target sentence. First he demonstrates a fit between *escape* and *troubles* in the abstract- *You escape from your troubles* (Line 15). He then connects this universal statement with the specifics of the story plot- *escape means he got away from it and he's got away from the cat. The cat's his trouble* (Line 18). In building his case around a gist summary of the story, Rob was able to transcend the limited scope for inquiry afforded by their hard copies of the text. Linking these themes to a specific word on the page- *troubles*- satisfies Jim and Ali's need for physical evidence of the validity of a proposal.

Hearing this, John abandons his own proposal (Line 17) and endorses *escape* (Line 19), whilst Ali stops prevaricating (Line 16), picks up *escape* (Line 18) and places it on the answer sheet (Line 20). It is only after the group make their final decision that Jim joins the conversation, telling the others to *Wait there!*

(Line 21). This, along with Jim's almost total concentration on the text suggests that he is either unable or unwilling to follow the reasoning of his peers without finding and checking hard evidence in the text for himself. Given Jim's very slow and deliberate approach to reading, this means he is out of kilter with the others and makes little or no eye contact with them. This compares with Rob's attempts to make and maintain eye contact with Ali (Lines 15 & 18), who originally read this passage in the text aloud and to whom the final decision therefore falls.

Figure 98, overleaf, summarises the evolution of the micro-ecology during this episode. In its initial state, the micro-ecology is back-grounded by school experiences that Ali and John associate with the word '*distracted*'. Ali's inquiry is initially facilitated by John who then moves to the concrete world of the task materials in order to test and reject his speculative proposal of '*guilt*'.

The intermediate state is triggered when Ali leaves centre stage to join Jim in a close reading of the text. This leaves Rob and John free to work on a script focussed on exploring story themes with minimal reference to constraining concrete particulars– this especially so in John's case. John, unlike Rob, is flexible in his role of evaluator and is able to see and accept merits in the other's proposal. His suggestion that both may be correct is an invitation to discuss their similarities but, instead, Rob takes this as a sign that John's position is weakening.

The final state is one where Rob acts in the role of expert to win his case. He skilfully moves between the stage set of the story's fictional world and that presented by the concrete materials to anchor his gist based proposal in material fact. Ali's placing of the card on the answer sheet completes the performance and shows that he was listening throughout. Jim, on the other hand, has not understood Rob's performance at all and tries, in vain, to slow things down.

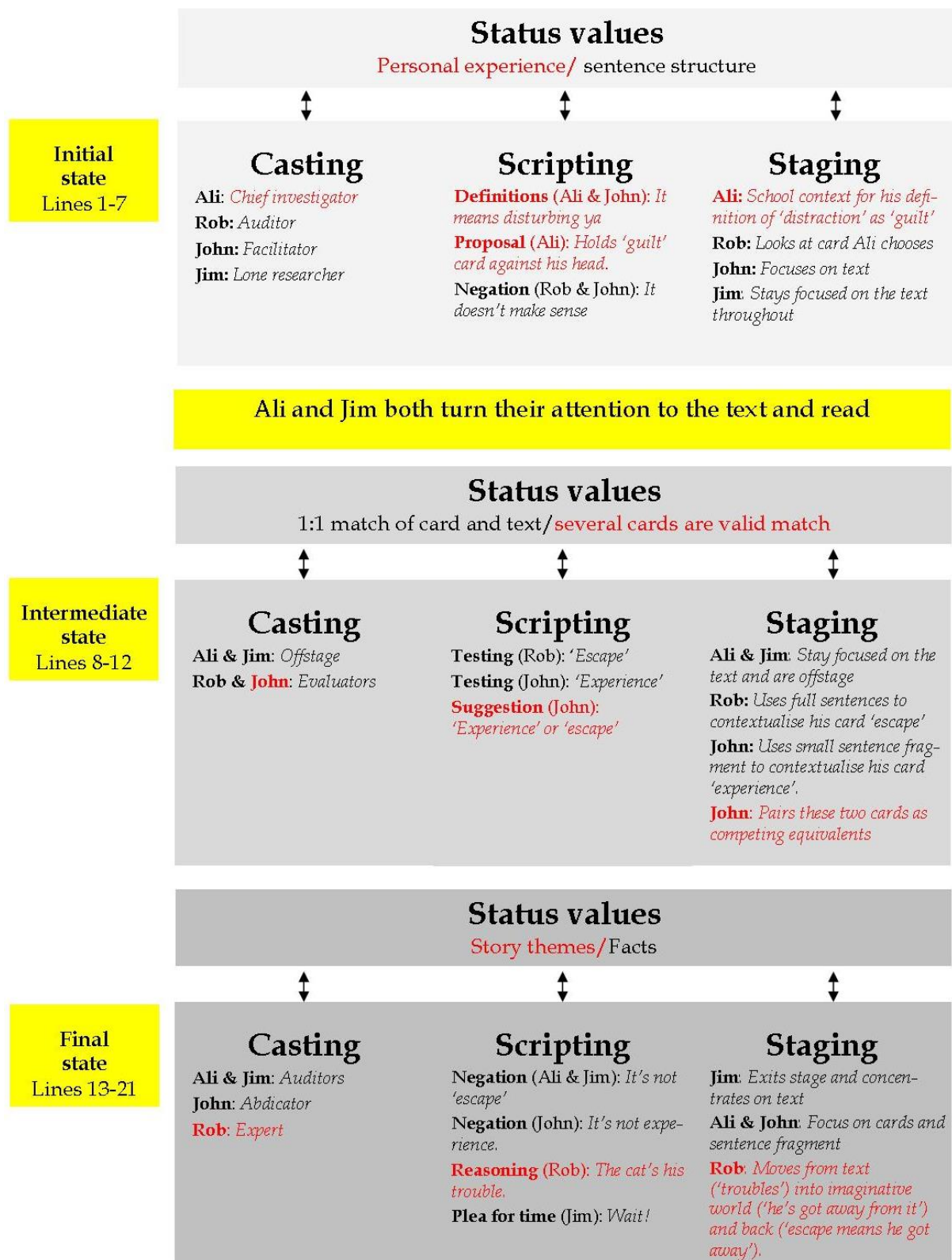


Figure 98 Microgenesis of interpretive dilemma- *Distraction*, Group D

16.1.5 Week 4 day 4: *Pulverised* (Isolated enactment in Group D)

Prelude: Ali falls victim to his own threat of violence

The events in this episode were, to an extent, predetermined by an exchange that occurred the previous day (for full log see Appendix D2.28, p.201). The group had been struggling to agree on how to define *deteriorated*. In the event, Ali's proposal *damaged* was rejected in favour of Rob's *got worse* which was placed on the answer sheet. This led to the following jovial exchange:

Ali: *Right! If it's damaged I'm going to slap every one of you!*
Rob: *If it's got worse we're allowed to slap you!*
Jim: *Alright? Really hard though!*
Jim slaps his own cheek hard to demonstrate.
Ali stops smiling and glances at John.



Figure 99 Jim (right) demonstrates Ali's (centre) method for punishing mistakes

The whole class discussion that takes place the following day reveals that Ali had indeed been mistaken. Later on, before trying to solve *pulverised*, the group are again involved in a dispute, this time over the meaning of *livid* (for full log see Appendix D2.32, p.220). Again, Ali is outvoted and his preferred candidate *furious* is rejected by Jim in favour of *confused*. Recognising this as an error, Rob warns Jim of the consequences of making a mistake- *Right! If you get it wrong...* which has the effect of reminding Jim of his promise the day before. Without warning Jim slaps Ali across the cheek (Figure 100, overleaf). The blow is hard enough to be heard by Teacher C who is at the far end of the library, standing near Group C. Although Teacher C reprimands Jim, she does not approach the group nor are any sanctions applied at this juncture. Instead, Teacher C leaves the group to resolve the issue themselves.



Figure 100 Jim carries out his threat

Ali yells in protest at Jim's attack (above left) *What you doing man!* at which Jim points to Ali and says in a lowered voice *That's a slap!* (above right). A few minutes later, when the group (ironically) are trying to solve *pandemonium*, Jim explains his actions to Ali- *You said put 'damage' and we didn't put that. We put it 'got worse'*. Ali reminds Jim that John also suggested *damage* and argues that he too should be slapped. Accordingly, Jim leans across and pretends to slap John, but does not follow through (Figure 101, below).



Figure 101 Jim pretends to slap John

The '*pulverised*' episode narrated below directly follows these exchanges. Although the group remain wary of Jim, what is very surprising is the lack of ill feeling or rancour during the subsequent discussions.

Lines 1-17 Ali focuses the group's attention

Time		Physical		Vocal			Artefactual	
1	5.53	Jim	Chews exaggeratedly and scans the room	John		Suddenly there was a screech of brakes and then a crash in the headlights.	John A& R	Leans over the text pointing to each word as he reads it. Look at their copies of the text
2	6.04	Ali	Gives an exaggerated shudder at the word 'dead'			We could see [the cat was <u>dead</u> (0.2) <i>pul</i> (.) <i>ri</i> sed by a passing patrol tanker	Ali	Points to his copy of the text when John reads the word 'pulverised' but doesn't help him
3	6.00			Jim		[]		
4	6.04	Rob	Looks at John	Rob		Heh heh. The cat's dead.		
5		Jim	Makes eye contact with Rob	Jim		<i>One in the l(0.2) left cheek and</i>	Ali	Looks at cards
6	6.09			Ali	BP	[THREATENED!]	Ali	Reaches across and points to 'threatened' but doesn't pick it up.
7	6.10	Jim	Leans forward and points to each cheek in turn.	Jim		<i>[and one's (0.2) one's in the right cheek</i>	Ali John	Points at text Looks at his copy of text
8	6.11	Ali Rob	Glances at John Smiles at Jim	Rob		()	Ali & John	Look at cards
9	6.16			Ali	N	NO!	Ali	Glances back at text
10	6.17	Rob & Jim	Now turn to look at Ali		CP	HIT MAN! (.) HIT!	Ali	Reaches across and slides 'Hit' over so it is positioned next to his text.
11	6.19	Ali	Looks at Rob and then Jim.	Ali	CI	THE CAT'S DEAD!	Jim	Holds his copy of the text up to his face
12	6.21			John		Aye		
13	6.24			Rob		His plan worked! Heh heh!		
14	6.25			Ali	CN	Hit (0.5) by a passing patrol tanker	Ali	Reads from his text, pointing with finger.
15	6.27	Rob & John	Watch Ali				Ali Jim	Waves card in the air then goes to place it on the answer sheet. Continues to hold text to his face.
16	6.28			Ali	AP	Do you think it's hit?	Ali	Shoves card in John's face so John has to rear back.
17	6.29			John		Aye	Ali	Puts card on answer sheet

The episode begins with the group's attention fragmented and no obvious regime in place. Jim is chewing gum and scanning the room, gum being strictly forbidden in the library (Line 1). He ignores the text and John's reading of it, and tries to strike up a conversation with Rob about how he will conceal the gum if challenged (Lines 3, 5, 7). Ali and Rob, by contrast, are following John's narration and display similar affective responses on learning of the cat's

demise- Ali makes a comic shudder (Line 2) whilst Rob laughs and looks at John- *Heh. Heh. The cat's dead* (Line 4). John appears to miss these reactions, his attention directed at the print, carefully tracing each word with his finger as he reads it. Although Rob and Ali share the same emotional response to the story, their focus of attention is very different. Rob is intent on making eye contact with his peers (Lines 4&5) whilst Ali is more preoccupied with solving the target word *pulverised*. He puts his finger on this word when John reads it aloud (Line 2) and then scans the cards for a matching solution (Line 5), finding *threatened* which he announces loudly and points to. This may explain why Ali fails to detect John's misreading of *petrol tanker* as *patrol tanker*, an error that will have consequences later on. Only John acknowledges Ali's proposal at this point (Line 8).

Ali then spots the card marked *hit* and shouts out this proposal just as Jim and Rob finish talking (Lines 9-10). It is possible that Ali shouts to focus the group's attention on his decision making process which, by now, follows a predictable pattern. Having announced his candidate to the others and got their attention, Ali then picks up *hit* and collocates it with his copy of the text (Line 10). He provides a reason for his selection- *THE CAT'S DEAD* (Line 11) and then inserts his word into a fragment of the target sentence, pointing to the text with his finger as he does so- *Hit.. by a passing patrol tanker* (Line 14). Despite the care he takes, *petrol* is again transformed into *patrol*, Ali failing once more to notice the breakdown in meaning this error causes. Finally Ali canvasses the opinion of his peers, waving *hit* jubilantly in the air (Line 15) and then in John's face- *Do you think its hit?* (Line 16) before placing it on the answer sheet (Line 17).



Ali's collaborators have very different responses to this performance. Jim holds his copy of the text close to his face throughout the sequence, studying it assiduously and playing no part in the exchange. John supports Ali's proposal unconditionally, endorsing it before Ali has completed his checks (Line 12) and then again just before Ali places the card on the sheet (Line 17). Rob's comment, by contrast, is unrelated to Ali's inquiry and is a continuation of his earlier emotional response to the narrative- *His plan worked! Heh! Heh!* (Line 13). So, whereas John, Ali and Jim are in their different ways focussed on the concrete particulars of print, Rob continues to orient to wider themes that extend beyond the passage that has just been read aloud.

Lines 18- 41 An impasse is reached

As soon as Ali places *hit* on the answer sheet, Rob makes a split proposal- *or it could be killed*- and places his finger on this card (Line 18). Both Ali and Rob now have a finger on their respective cards. John again unconditionally accepts a proposal- *Aye. Killed* (Line 19) leaving Ali outvoted. In response, Ali repeats his proposal of *hit* (Line 20) before John arbitrates by inserting each word into a very short fragment of the target sentence- *Dead, killed; Dead, hit* (Lines 20 & 21). Jim then intervenes with a third candidate- *GOT RUN OVER* (Line 23), bringing the third of four dilemmatic choices designed into the task into play. The fourth and correct candidate *crushed* goes unnoticed, probably because the group have yet to identify the term '*petrol tanker*' correctly. Under these circumstances, the size and weight of the vehicle involved is not emphasised in their discussions and so the relevance of *crushed* is not realised. Without this information the group struggle to make a reasoned choice. Rather than negotiate with each other, the group simply repeat their respective proposals, placing their fingers on their preferred cards as they do so. Signs of frustration now begin to show- Ali shrugs in resignation and Rob bangs his fist on the table (Line 30). Jim tries to break the deadlock by ordering Ali to read the target sentence with his own proposal *run over* inserted (Line 29). Ali complies, reading the entire target sentence from start to finish in the hope of finding fresh data, but to no avail (Line 31).

Time		Physical		Vocal			Artefactual	
18	6.30			Rob	SP	Or it could be killed	Ali Rob	Keeps his finger on 'hit' Puts his finger on 'killed'
19	6.31			John	RP	Aye. Killed		
20	6.32	Ali & Rob	Make eye contact	Ali	CP	Hit man! Hit!	John Jim	Looks at text Continues to hold text in front of his face
21	6.34			John	CH	Dead, killed	John Jim	Reads from text Continues to hold text in front of his face
22	6.36				CH	Dead, hit		
23	6.40	Ali & Rob	Look at Jim	Jim	CP	GOT RUN OVER!	Jim Others	Continues to hold text in front of his face and puts finger on 'run over' then removes it. Check their copy of the text
24	6.42	Ali & Jim	Make eye contact	John	CH	Dead, run over	John Jim	Reads from text Replaces finger on 'run over' card
25	6.43			Jim	CN	Dead, run over	Jim	Continues to keep finger on card as John reads
26	6.45	Ali	Makes eye contact with Jim	Ali	CP	Hit	Ali	Leaves his finger on 'hit'
27	6.48				CN	Hit by a passing patrol tanker.	Ali	Points to text
28	6.49	Ali & Jim	Make eye contact	Jim	N	No.	Jim	Picks up 'run over' and places it on table apart from other cards
29	6.50					Read it again		
30		Ali Rob	Shrugs in resignation Bangs fist impatiently on table				All	Look at text
31	6.52	Ali	Makes eye contact with Jim when he finishes reading	Ali	CH	Ali In the headlines (.) we could see that the cat was dead (.) <u>run over</u> by a passing p (.) patrol tanker.	Jim	Looks at Ali's copy of the text whilst he is reading.
32	7.00	Ali	Waves hand in the direction of the cards. Glances at Rob when he says 'killed'.		SP	COULD BE HIT AND IT COULD BE erm (0.5) killed		
33	7.05			Jim		Or damaged	Ali	Collects up killed, run over and hit and places them in a group next to his copy of the text.
34	7.06			Ali		IT COULD BE THIS (.) THIS (0.2) OR THIS		
35	7.09	John	Tries to make eye contact with group	John	E	Who votes for run over?		
36	7.13	Jim	Glances at John				Ali & Rob	Look at the cards
37	7.14			Jim	DF	We'll put them all and then decide after	Jim	Starts to collect up the three cards
38	7.16	John	Tries to make eye contact with group	John	E	Who votes for killed?		
39	7.18			Jim		We'll just put it all on and decide after		
40	7.20				SS			Jim
41	7.21	Ali	Looks at Rob	Ali		Read number four.	Rob	Starts to read the next paragraph.

Ali misreads key words that identify the agent of *pulverised* as a heavy lorry- *headlights* is read as *headlines* and *petrol* again becomes *patrol* (Line 31). An impasse has now been reached, which Ali signals by impatiently collecting the three cards- *hit*, *killed* and *run over*- and placing them in a group next to his copy of the text- IT COULD BE THIS.. THIS.. OR THIS (Line 34). Jim and John bring this sequence to a close by each proposing a different way of minimising the dilemma facing the group. John seeks eye contact with Jim and suggests an election, whereby the group can make a choice without the need further analysis- *Who votes for run over?* (Line 35). Ali and Rob ignore John's idea and Jim rejects it outright, despite the fact that John is backing his proposal *run over*. Instead, Jim insists they defer their selection till later- *We'll put them all on and decide after* (Line 37). John seeks eye contact with Rob and Ali and again suggests an election (Line 30) and, again, this is shut down by Jim- *We'll just put it all on and decide later* (Line 39). Jim then places all three cards on the answer sheet and Ali prompts Rob to read the final paragraph.

Line 42-62 The dilemma is reactivated

Ali calls the group to order by slapping his hand on the table - *Right! Get your drawings!* (Line 42). Ali then notices that there are still three cards against the word *pulverised*- WE NEED TO DECIDE KILLED OR RUN OVER OR HIT! (Line 43). Rob laughs at Ali's expression of despair and John suggests the group hold an election- *Who votes for hit?* (Line 45). Rob joins Ali in voting for this candidate, despite his earlier support for *killed* (Figure 102, below). Jim, on the other hand, remains loyal to his own candidate of *run over* leaving *killed* with no votes (Line 49). Ali declares the election in favour of *hit* (Line 50) and then removes the two rejected candidates from the sheet (Line 51).



Figure 102 Group D use an election to minimise their dilemma

Time	Physical		Vocal			Artefactual		
Group read paragraph four and solve anaesthetised, then return to 'pulverised'								
42	8.24			Ali		Right! (0.2) get your drawings.	Ali	Slaps hand on his copy of the text. Retrieves the answer sheet that he will draw on
43	8.26			F		WE NEED TO DECIDE KILLED OR RUN OVER OR HIT		
44	8.27	Rob	Looks at Ali and laughs				Jim & John	Look at answer sheet with the three cards on it
45	8.29	All	Make eye contact with John	John	E	Who votes for hit?		
46	8.31	Rob & Ali	Raise hand		RP			
47	8.33			John	E	Who votes for run over?		
48	8.34	Jim	Raises hand	Jim	RP	Me	Jim	Waves his copy of the text in the air
49	8.35		No one votes	John	E	Who votes for killed?		
50	8.37			Ali		Right! Two on one on one (.) It's hit		
51	8.39	Jim	Nudges Ali. Ali leans away from Jim.		SE		Ali	Ali removes killed and run over from the answer sheet
52	8.40			Jim	CP	NO MAN! PUT KILLED!	Ali Keeps hand on answer sheet	
53	8.41			Ali	N	No. It's hit		
54	8.42			Jim	CP	Run over		
55	8.44	Rob	Leans back, away from Jim	Rob	N	NO! IT'S HIT!		
56	8.46	Jim	Tries to make eye contact with the researcher and waves copy of text in the air.	Jim	AP	SIR! SIR! CAN YOU COME HERE FOR A SECOND?		
57	8.48			Rob		IT'S TWO ON ONE!	Ali	Removes 'hit' from the answer sheet but continues to hold it.
58	8.49			Jim		SO?		
59	8.50	All	Watch Ali	Ali	SE	IT CAN EITHER BE KILLED RUN OVER OR HIT (.) IT'S HIT!	Ali	Puts his finger on each card as he refers to it then replaces 'hit' on the answer sheet.
60	8.52	Ali	Points to John		RP	It's hit. He voted it (0.5). Three on one.	Jim	Covers the top of his head with the text in frustration
61	8.54			John		Right! Drawings!	John	Retrieves the sheet he will draw on.
62	8.56	Jim	Points to each member in turn	Jim	CG	If it's run over right I'll slap all of yous!		

Jim nudges Ali as he places *hit* on the answer sheet, causing him to flinch- NO MAN! PUT KILLED! (Line 52) Ali rebuffs Jim's attempt to bypass the vote, keeping his hand on the answer sheet to ensure it is not interfered with- *No. It's hit* (Figure 103, below)



Figure 103 Jim tries to bypass the election result

Jim tries again- *Run over* (Line 54) and this time Rob denies him, leaning back and away from Jim as he does so- NO! IT'S HIT! Getting no response from the group Jim then calls the researcher over to arbitrate- SIR! SIR! CAN YOU COME HERE A SECOND? (Line 57). Rob's response is to remind Jim of the result of the vote which Jim, understandably rejects- *So?* (Line 58). The process of voting has nothing to do with proving the superior fit of a preferred solution and so is dismissed by Jim as a means of resolving the dilemma. Ali acknowledges this point in a raised voice, showing frustration that the election has altered nothing in terms of their understanding- IT CAN EITHER BE KILLED RUN OVER OR HIT.. IT'S HIT! (Line 59). Jim covers his head with his text in frustration, whereupon John repeats Ali's earlier exhortation- *Right! Drawings!* (Line 61). In conceding defeat, however, Jim issues a final warning to the group, pointing to each member in turn- *If it's run over right I'll slap all of yous* (Line 62).

There is no interest shown in the text in contrast to the previous sequence. Here democratic principles, not narrative themes, are the terms of reference.

Figure 104, overleaf, summarises the evolution of the micro-ecology during this episode. Its initial state is predominantly oriented to the imaginary world of the story. This world is projected onto different stages by different actors. Rob focuses on making eye contact with his peers in order to gauge their reaction to the cat's death. Ali channels his attention onto the materials and starts an inquiry which ends with the selection of '*hit*', which John endorses.

The episode would have ended there had Rob not spotted the competing card '*killed*'. Interestingly, Rob retires from the stage as soon as he does this and is largely a spectator from here on in. John's tests involve very brief quotes from the text and this proves too small a platform for Ali to come to any definite conclusion. The result is a Mexican standoff, with each proponent choosing their '*weapon*' by placing a finger on it. Two new roles emerge from this twist in the plot. John takes on the persona of a canvasser, hoping to neutralise hostilities through the impersonal script of a ballot. Jim, as a realist, believes that a true answer will eventually emerge if enough time and consideration is given to the matter. He therefore legislates against the ballot as intellectually dishonest and vetoes any casting of votes.

The final state of the micro-ecology occurs some time later when the group have forgotten all about their standoff. By now emotions have cooled to the extent that Jim permits the ballot script to proceed. Spotting that another stalemate is in the offing, Rob takes on the role of election-fixer and sacrifices his candidate so that Ali's will win. However, the script fails to provide Jim with credible concrete evidence that '*hit*' is unequivocally the one '*true*' solution and so he reverts to his role of die-hard stalwart. In a last ditch attempt to win, he repeats his earlier threat of violence. The performance ends on a cliff-hanger- to be continued...

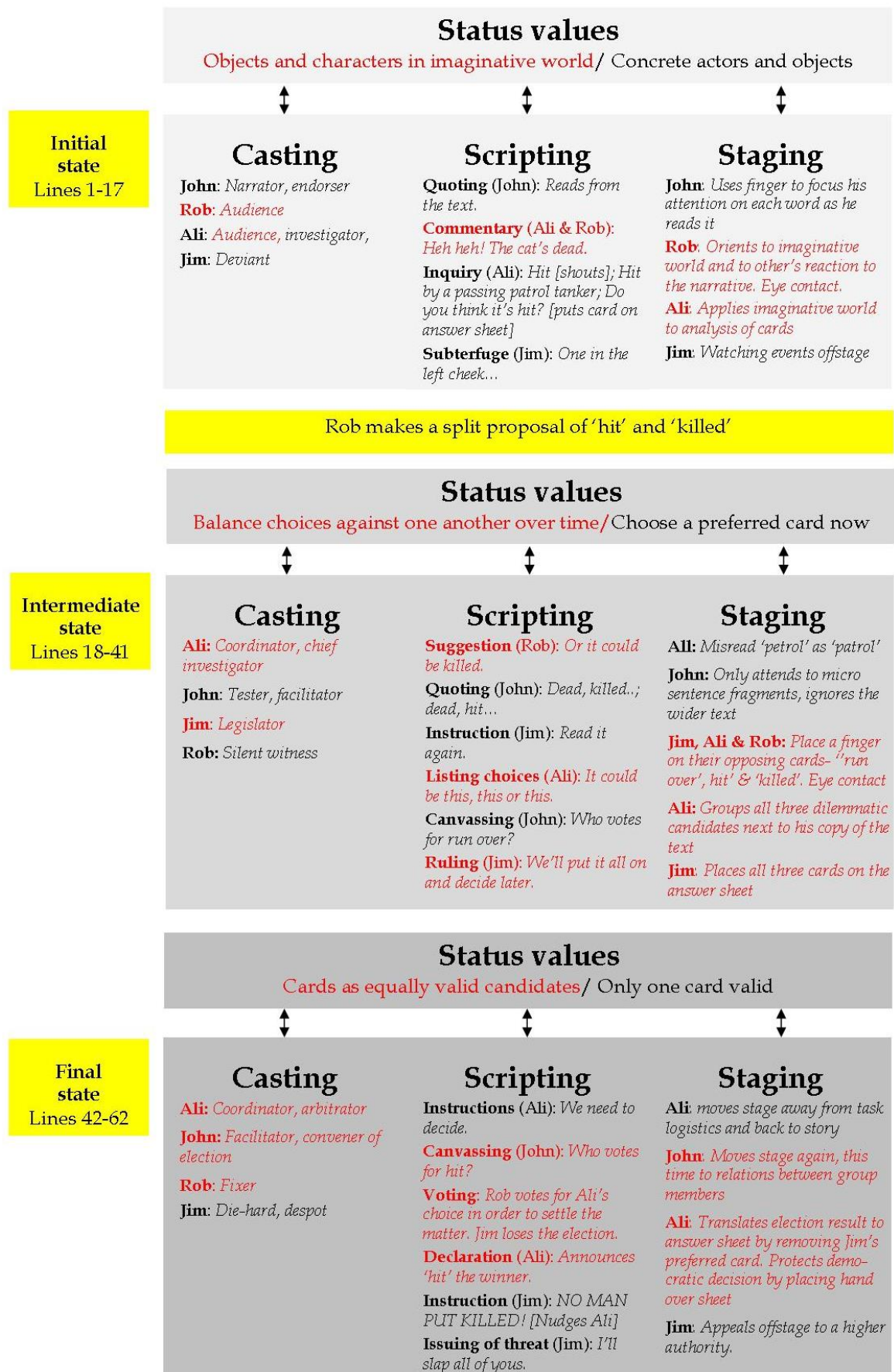


Figure 104 Microgenesis of interpretive dilemma- *Pulverised*, Group

16.1.6 Summary of textual conditions

Figure 105, below, summarises the textual conditions of the Group D micro-ecology.

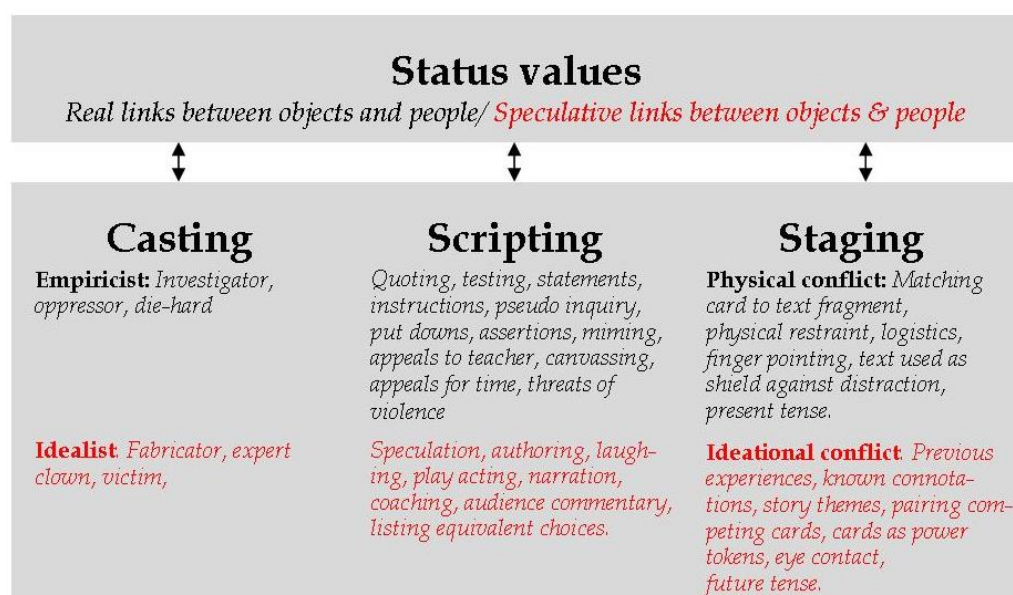


Figure 105 Summary of textual conditions of the micro-ecology- Group D

As with Group A, the Group D micro-ecology is dominated by concrete relations between objects and people. In Group A, this was driven by the value given to time efficiency and smooth coordination of actions. Here, however, there is little value given to time as a resource. Instead it is expended in biblical quantities seemingly disproportionate to the minor quibbles that preoccupy the group. Coupled with this is a heightened emotional volatility that is in stark contrast the emotional neutrality maintained by the girls. Here, the emphasis on concrete relations has a centrifugal, not a centripetal effect- it seems to drive a wedge between different camps in the group rather than unify them.

Many sequences involve tit-for-tat exchanges, where cards are matched against very small textual fragments without any hope of resolution. It is more often than not Rob who disrupts these stand-offs and who triggers a shift towards a more productive examination of ideas and concepts. To this end he employs competing cards as centripetal devices, creating coherent

epistemological categories for the group within which loyalty to a given card is made redundant.

Rob, however, appears reluctant to mediate this shift himself and is liable to retreat from the stage once the group's stalemate has been disturbed. The fulcrum of microgenetic change in the micro-ecology is Ali, whose intellectual dishonesty allows him to assume the role of coach, arbitrator and perhaps most importantly clown. In a dynamic situation of oppression (Jim) and insurgency (Rob), Ali is able to coordinate and rationalise shifts in the balance of power that would otherwise descend into outright war or tragi-comic farce.

The remainder of this chapter uses field notes, video log entries, interview data and test scores to further develop these inferences as they apply to each individual group member. In the interests of concision, the analysis focuses on the three actors who were present throughout the majority of transcribed episodes- Jim, Rob and Ali. As before, sections of video logs directly quoted in the main body of the thesis are highlighted in yellow in the appendix to aid the reader in crosschecking these data.

16.2 Jim's positioning of self and others in the dilemmatic space

16.2.1 Inferences drawn from the sampled transcripts

Jim's obsessive attention to the details of print, coupled with his relentless pursuit of exact solutions to the solving tasks, mark him as an absolutist. He is passionate to the point of violence in his pursuit of 'right answers' but is often betrayed by the inability of his forensic inquiries to produce these answers quickly and reliably. His dilemma is to stay *true* to his principles at the risk of exposure as an incompetent, or accept the *wrong* ideas of others that negate his belief in a stable Cartesian world.

16.2.2 Contextual data from tests, interviews, meetings and video logs

There are aspects of Jim's positioning of himself and others that are redolent of both Jill and Kim's activities in Group A. Like Jill, Jim perceives reading as an activity that has value and status in its own right. On several occasions Jim almost comes to blows with Ali over who will read first.

Ali and Jim discuss who is going to read first. Jim says he'll do it because Ali went first yesterday. Ali says 'But I like reading'. Jim starts reading and Ali clears his throat loudly. John smiles at Ali and Jim's double act.....Jim and Ali then fight for the right to read paragraph three and both start reading over the top of one another. John laughs, possibly because it should be his turn, and Ali eventually gives in (Appendix D2.16, p.138).

Also, like Jill, Jim uses the task materials as a technical tool with which he can monitor and control other's interpretations. When executing these checks Jim, like Kim, attends to words and sentence fragments rather than the wider text, regardless of the weight of evidence presented orally by his peers. Each solution is verified by physically matching it against his copy of the text. Consequently, he is frequently out of step with the abstracted principles and definitions discussed by his peers.

Ali correctly proposes (**I've got it**) and acts it out in a comic voice– *Eureka! I've got it!* The others agree so Ali puts the card on the sheet and the group prepares to move on to the next task. Jim, however, continues to scan the cards and look at his text. Jim collocates *Oh no!* with his text says *I think it's Oh no!* (Appendix D2.24, p.180).



This insistence on order and procedure is reflected in the way Jim organises the materials prior to the commencement of each session. The solution cards are carefully laid out in a neat array in front of him so that all are visible at any one time. Likewise the answer sheets are arranged in sequence so that the group's progress through the solving tasks can be surveilled at a glance. The orderliness of Jim's panopticon system (*left*) is in stark contrast to the chaotic system of Group C (*right*) (Appendix 2.15 and 2.16).



A key tenet of Jim's absolutist approach is that a universally correct interpretation exists and that it is the responsibility of each member to identify such with respect to the paragraph they read out. In order to maintain this accountability system, Jim enforces a rule that each student should have sole responsibility for solving 'their' word and actively opposes any attempt to resolve dilemmas by majority rule. For example, during passage reading (Appendix D2.20), Jim repeats the near obsessive attention to detail that was observed in the running records during initial testing. **Blue text** indicates errors that Jim has detected and self-corrected).

I looked **in on Luke** who was asleep in the **room next door**. He was okay so I went back to bed with a **yawn**. * Outside the shadows were **gathering** and warm lights glowed in the windows of the **houses**. Beside me, Billy stirred and a soft **growl** came from his throat **as his** paws twitched. I ran my hand through the **straggly fur** and his back and rubbed his ears.
Good old Billy....He believes me.

To the frustration of his colleagues, this uncompromising approach is then carried over to the interpretation of 'his' word *gathering*, whereupon Jim insists on extensive checking of a choice that has already been ratified by the others.

John starts to tap his pen loudly on the table. Rob slumps on the table and asks what the second lesson is. John proposes **spooky** and Ali tries to take this card off Jim. Jim refuses to let go – *Wait man! I've got to check it first!*. Rob also tries to get the card off Jim (right). Rob asks Jim why he is refusing to go along with **spooky**. Jim says *It's mine – I'm doing number 4*. Ali says – *We're in a group – doesn't mean it's yours*. (Appendix D2.20, p.160)



This partitioning of the solving tasks allows Jim, like Kim, to identify and administer sanctions against those who let the group down by making an error. His closing comments after the Week 4 Day 4 solving task make clear to the group that his earlier violent assault on Ali was not a one off but an ongoing threat.

If it's 'run over' right I'll slap all of you! (Appendix D2.32, p.221)

However, a side effect of Jim's close attention to the materials is that he is largely absent from the group's discussions of concepts and themes. His habit of holding a copy of the text up to his face creates a physical barrier between him and his peers that screens their negotiations from sight. As a consequence, Jim's comprehension remains anchored in discrete words and phrases and so, like Kim, he is left helpless when it comes to the making tasks. Like her, he is initially successful in masking this vulnerability behind a show of authority, in his case by monopolising the production of illustrations on the strength of his considerable skills as a draughtsman (e.g. Appendix D2.16, p.141).

John starts to issue each member of the group a pencil.
Jim takes one and throws the others back, telling John that the group only needs one pencil. Jim takes responsibility for drawing, Ali reads from the text and John is left without a role.

Jim – *Read the first sentence*

[Ali starts reading to himself, mumbling the words]

John – *I'll just... I'll just.....*

Jim – *I'll draw a cat with no one touching it!*

Ali – *No! A person touching it and then a person.. Eyes... you know how their eyes...*

[Ali puts on a blank expression and makes his eyes wide and staring. Ali then points to his eyes and makes a spiral motion with his fingers]

Although his performance as an illustrator lends the illusion of competence Jim is, in fact, totally reliant on Ali to analyse the passages for him and strip out the key elements he needs to translate to visual form. This was made apparent when the redesigned answer sheets were introduced, requiring each student to construct their own image for the paragraph they had read. Jim's protestations to Ali and Rob in the sequence below echo Kim's constant demands on Jill for direction (Appendix D2.24, p.181).

John	<i>Right. I'll draw him inside the coach.</i>
Jim	<i>[Appealing to Ali] Unsuccessfully? [Frowns. Taps pencil]</i>
Ali	<i>[Being careful not to make eye contact with Jim] Mine's escape. What would mine be?</i>
Jim	<i>[Thinks whilst all the others are working. He 'smokes' his pencil like a cigarette. To Rob] I don't know what to do.</i>
Ali	<i>Jim, stop acting hard.</i>
Jim	<i>[Throws cards at Ali. Jim waits for a response from Ali but there isn't one. Jim looks at his copy of the text and then looks at what John is drawing]</i>
Ali	<i>Well do it then Jim. Draw!</i>
Jim	<i>I don't know what to do!</i>
Ali	<i>Well read it!</i>
Jim	<i>[Reads silently to himself and then reaches across for the cards that he threw at Ali]</i>
Ali	<i>No man! It's 'unsuccessfully'.</i>
Jim	<i>It's mine! I'm checking. I'm doing it aren't I? You're doing yours. You're not doing anything an all so there you go!</i>
Ali	<i>Cos I'm reading it! I'm not like you!</i>
Jim	<i>So am I! I'm reading it! That's why I've got the words.</i>
Ali	<i>It's unsuccessfully. Cos you don't know what it means. That's why you're changing it.</i>
John	<i>[Pointing to his drawing] He's at the back of the coach.</i>
Rob	<i>Does it say he's on a coach?</i>
John	<i>[Points to the text and reads (4)] Three weeks later a coach came...</i>
Rob	<i>Aye</i>
Jim	<i>John man! Read it where it says the word [Points to the target word in his paragraph]</i>
Ali	<i>You need to read yours.</i>
Jim	<i>That's what I was doing. That's why I've got the words.</i>

It is apparent in the above sequence that an epistemological divide separates Jim from his peers. Jim's adherence to the cards as a prop mirror his belief that meaning is constructed from words and can be found in a close analysis of them. This contrasts with the ease with which Rob and John move across the modes of print and image in their discussion of setting. Jim's perception of the visual texts the group construct is also markedly different. Whereas the others concentrate on a parsimonious representation of key plot events and characterisation, Jim applies the same microscopic attention to detail here as he

does in his passage reading. This sequence follows on from that shown above (Appendix D2.24, p.182)

Rob [To John] *What's he hanging out the window for?*
John *He's not!*
Jim [Looking on] *He's looking out the window man.*
Rob *Where's his leg?*
Jim [Pointing to Rob's drawing (5)] *Where's yours?*
Rob *There!*
Jim *Where are their ears?*
[Rob draws ears]
Jim *What's that?* [Jim then advises Rob on how to improve his illustration]

Ali, who acted both as Jim's tutor and whipping boy, commented on Jim's epistemological isolation, both during the sessions (*Jim man! You think of things that don't make sense* (16.1.3, p.303)) and also in the subsequent group interview (Appendix H1.4, p.317).

Ali [Nods] *And then they have a vote and then they say that most person's on that side for that word* [points to table].
Teacher C *Is that how they did it?*
Ali *Aye.*
Teacher C *Did it work doing that?*
Ali *Nah..... It's Jim really.*
Teacher C *Right. What is it that Jim does?*
John *He thinks different from us.*
Ali *Aye, like we think it's this one and then we think 'Ah right, it's this one' and then he puts that word back and puts the word that he thinks.*
John *And then we're always right.*

16.2.3 Rule breaking and experimentation

For Jim, violation of code occurs when he is required to accept a gist based interpretation or an a priori word definition for which there is scant supporting evidence available in the target sentence. His frequent instructions to '*Read it properly*' are not so much a challenge to the accuracy of the reader as they are a warning to the group that they should only consider evidence relevant if it can be physically located on the page. The occasions where Jim comes closest to violating this code are marked by transitions between the mode of printed text and the mode of illustration under the guidance of an expert reader. In the sequence, below, Rob patiently tries to explain the different temporal

affordances of illustration and narrative prose to portray flashbacks as he and Jim negotiate the construction of an illustration (Appendix 2.32, p.223).

Rob [Points to his sheet] *Can you draw me a dog... the cat?*
 Jim *Why?*
 Rob *Cos the cat hypnotises them*
 Jim *Read the sentence. It doesn't say the cat hypnotised them cos the cat isn't there!*
 [Points at his copy of the text]
 Rob *It did hypnotise them!*
 Jim [Pushes text towards Rob] *Look man! Look! Read it! Read it!* [Rob takes text and reads it]
 Jim *Exactly! Read it!*
 Rob [Points to the text with a pencil as he reads aloud] *Maybe that's because they were hypnotised by the cat.*
 Jim *Aye! Hypnotised! They're not getting hypnotise....* [Jim stops short of adding 'ed']
 Ali *I'm done.*
 Rob *Aye! But they're coming out of it.*
 Jim *Aye, exactly. They're coming out of it cos the cat isn't there.*

Notable here is Jim's use of the language of command and control to counter Rob's attempts at negotiation. Jim minimises any suggested compromise to his absolutist position through a combination of imperatives (*Read it*) and direct reference to print (*The cat isn't there*). However, he has less success in dominating Ali, who adopts the role of coach (*Why you doing a cow?; Read it!*) in his attempt to help Jim.

Ali *I don't know what Jim's going to do.*
 Jim *The cow*
 Ali *Just draw a cow.*
 Jim *Not just a cow.*
 Ali *Why you doing a cow?*
 Jim *Cos it says on there* [Points to text]
 Ali *But you don't know what it means.*
 Jim *What? A cow? I don't know what a cow is.*
Is that what you're trying to say?
 Ali *No. What does the text mean? Read it!*
 Jim *That's what I'm trying to do*
 Ali *But you're just drawing a cow.*
 Jim *I'm not just drawing a cow. I'm going to draw something else.*
 Ali *How? We've only got two minutes!*
 Jim *I don't care.*

(Appendix D2.24, p.182)

Either way it is in this transduction of concepts from print to image that Jim comes closest to confronting, if not breaking, the remarkably restricted coding procedures he would force the group to adhere to.

16.3 Rob's positioning of self and others in the dilemmatic space

16.3.1 Inferences drawn from the sampled transcripts

Recordings of Rob's interactions both with the text and his peers communicated a combination of ambivalence or disempowerment to the teachers. The comments, below, were made after viewing a video clip from an early Group D session (Appendix H2.2 p.333)

Researcher *It ends up with Jim doing all the drawing and Ali managing the text role. These two [points to Rob and John] are left.....So that day, after I played the video I said there's obviously something wrong here because you're letting these two [Ali and Jim] do all the work.*

Teacher C- *But it's also because they thought they'd keep it to themselves.*

Teacher A- *They haven't got texts haven't Rob.*

Teacher C- *They're not letting them join in.*

Teacher A- *But I'm wondering if he [Rob] is not that interested that much.*

Rob's absence from much of the discussion that takes place, coupled with his seeming indifference to the decisions that are made, is suggestive of someone who feels himself skilled enough to interpret the text without the need for props or negotiation. Alternatively, it may be that as an expert reader he shares Teacher B's literary perspective on meaning and is hesitant to follow suit with the absolutist convictions of Jim and, to an extent, Ali.

*I find it.... I know this is terrible as an English teacher. I find it very hard to....I know what words mean but I'm not one of these people who can instantly go 'It means this'. It really irritates me about myself because my husband can do it- he's really great- he'll go 'Oh. It means duh duh duh'. He's a maths teacher and that really annoys me that he's got that.... I know what it means but I'd say it in a long, long sentence but it's finding that word that sums it up that I find hard.
(Appendix H2.2, p.337).*

Either way, Rob's failure to engage with the tasks is liable to be interpreted by his peers not as disinterest but as a lack of power and authority. Under these circumstances, does one actively *engage* with the pointless or allow oneself to be *passively subjected* to it?

16.3.2 Contextual data from tests, interviews, meetings and video logs

Rob sometimes appears to lack confidence in his own judgement, despite achieving amongst the highest comprehension scores in the cohort. For example, Rob does not simply repeat Sam's turn of phrase in the episode

below, but formulates his own argument. This suggests that he had understood and supported John's proposal of '*unsuccessfully*' all along but, without this serendipitous prompt from Sam, it is unlikely this would have been voiced.

No attempt is made by John to defend and justify his proposal until after **unsuccessfully** is overheard as the selection of Sam who is now working in group C- *They tried to tire them out by going on long walks...Put unsuccessfully.* The group look across at Group C's table. Rob then repeats this proposal- *Aye they are unsuccessful because they stay up.* (Appendix D2.24, p.179)

However, several aspects of Rob's behaviour are suggestive of someone who does not see the need for concrete materials and collaborative tasks to formulate a personal, private interpretation. Perhaps most obvious are the occasions where his affective response to events in the narrative outweigh his interest in the minutiae of the group's decision making process. During the '*pulverised*' episode above (see 16.1.5) Rob shows little interest in the cards or the text as his peers haggle over the correct solution. Instead, he orients to the '*possible world*' he has realised from the text and seeks eye contact with his peers to gauge their response- *Heh heh! His plan worked.* At this juncture it seems that Rob is literally in a different world to the others.

There are occasions when this ability to abstract himself from the situation extends to Rob's reading and retelling of the story. Although his passage reading tends to be mechanical, his reading of direct speech sometimes marks a shift to a more expressive and natural tone (e.g. Appendix D2.24, p.178). Similarly, whereas his colleagues restrict themselves to a third person recount of the text from their perspective as a reader Rob, on occasion, switches to the role of the main character himself and delivers his retell in the first person.



First they built some stairs and then jumped off the top and then we built a fort and then we collapsed on the ground and lay in the sun. That's when I had the idea about the cat. I was lying on the spiky straw that felt like a nail of bed... a bed of nails. Eureka I said out loud. What are you talking about? said Andy. Oh nothing I said. I didn't want to talk about it until I had it clear. (Appendix 2.24, p.183)

Rob, uniquely for this group, does not use his finger as a tool to guide his accurate reading of text. Also, unlike his peers, he first orients to the cards rather than the text during the solving tasks. Both these traits indicate that Rob uses a gist understanding of the text to guide his activities, and so has less need of Ali's reading of the target sentences to focus his attention. On occasion he loses patience with Ali and signals his frustration (Appendix 2.8, p.97).

Ali reads the target sentence for 'subtle' and Rob tells him it is not necessary as they are already looking at cards-*'Ali, we're just on that!'*

This, however, means that Rob sometimes wrongly privileges his broad understanding of the text at the expense of more localised evidence available in the target sentence. In the example, below, he finds an unlikely ally in Jim in his opposition to Ali's mundane proposal of *loud* as a definition for canned laughter.

Jim proposes **spooky**, justifying it by saying- *It's about the cat!* Rob says 'Aye' and follows with another candidate that follows this **supernatural** theme- **unlucky**. Jim proposes **dark**. Ali pulls a face to suggest he doesn't agree with this strategy and proposes **happy** or **loud** again. Both more fittingly describe a **mundane** TV game show. (Appendix D2.20, p.159)

Like Betty, Rob is alert to the possibility that multiple solutions may apply to the same target word but, also like Betty, he appears reluctant to take sole responsibility for resolving the interpretive dilemmas he brings to light. Rob's early suggestion that the group place several possible answers on the sheet is initially greeted by his colleagues as a joke and/or as a violation of the rules for the task. He gains some kudos when a teacher confirms that this is, indeed, within the rules.

A stalemate ensues because the strategy of rereading the target sentence fails to separate the competing selections- **spoiling** and **blocking**, hence there is a deferment and both cards are placed on the answer sheet. Ali laughs when he sees this. *You can't do that!* Rob says 'We can!' Sam checks this with Teacher A who confirms that the group can decide later. 'Yeah', says Sam to Ali, 'Use your head!' (Appendix D2.4, p.79)

Rob's recognition of the dilemmatic nature of the materials puts him in a position to challenge Jim's limited perception of their interpretative affordances. Yet, in a sense, Rob simply exchanges Jim's absolutism for a

complacent relativism that is just as effective in deterring any attempts at dilemma management.

- *It could be any of them* (Appendix D2.4, p.79).
- *It could be any of them* (Appendix D2.8, p.98)
- *It could be anything* (Appendix D2.20, p.159)

Rob shows little interest in which of the dilemmatic candidates he makes available to the group is finally selected. For example, he willingly sacrifices his own proposal of *killed* in order to break the deadlock over *pulverised*, described earlier. Rob is, however, inclined to defend his proposals against epistemological perspectives that contradict his own. An obvious example is the dispute over *conscience*. Rob remains loyal to his abstract candidates *sadness* and *guilt* despite Jim and Ali's strong advocacy of the concrete *seatbelt* or *tent* (see 16.1.3). This schism created an inter-epistemological dilemma (*seatbelt* versus *guilt*) that overshadowed the intra-epistemological quandary targeted by the task design (*guilt* versus *sadness*).

Rob is, however, capable of adapting his stance to that of his opponents in order to counter their opposition to him. His handling of the disagreement over *distraction* is a very good example of this (see above 16.1.4). Frustrated at continual re-reading of the target sentence, Rob first cites a keyword, *troubles*, as a fop to Ali and Jim's need for a textual anchor for discussion. Next, he links this word to a universal principle- *you escape from troubles*- and then relates this back to the specifics of the story- *the cat is his troubles*. Through adopting some of the more rudimentary, concrete actions of his peers, Rob successfully asserts his authority as an expert reader and establishes the credibility of universal principles as a form of proof. Rob is also able to use this skill aberrantly, for example when he distorts print-based evidence to assert his will over others. Rob uses this tactic in his argument with Jim over *conscience* and again in his challenge to Ali's proposal of *storm* for *squall*. On both occasions Rob seems willing to reshape the text according to his own agenda rather than follow the meaning intended by the author. If true, this identifies Rob as someone who picks his battles according to the stakes, rather than apply his skills consistently

and uniformly. Whereas Jim defends the integrity of the text through his physical dominance of others, Rob is able to exert power over others through his tactical manipulation of it.

16.3.3 Rule breaking and experimentation

Code violation for Rob occurs when he is required to submit himself to the details of print rather than respond to the story's abstract meanings. Rob frequently becomes impatient when required to do this during the solving tasks, but seems more tolerant of it when directing others in their attempts to recreate scenes from the story. Here violation of his preferred approach serves a reciprocal purpose. First, it allows Rob's peers to benefit from his grasp of key elements of plot, characterisation and setting and, second, it directs Rob to material facts that he is prone to skim over or misconstrue.

Rob [points to his drawing] *There! That's them lying down, cos they're lying on the straw.*
 Jim [Still looks at his cards. Ali carries on reading from the text]
 Ali *What could I draw for number three?*
 [No one responds]
 Ali *What could I draw?*
 Rob [Looks at his copy of the text. Jim has started drawing]
 Rob *Like him carrying straw on his back, cos that's what he's doing.*
 Ali *Where?*
 Rob [Points to text with pencil] *There were five of us. We were told to stack some straw bales. It was hot work.*
 Ali [Starts drawing]



Ali (far right) and Rob (second left) underline sections of the text that they will talk about (Appendix 2.24, p.182)

16.4 Ali's positioning of self and others in the dilemmatic space

16.4.1 Inferences drawn from the sampled transcripts

Ali's interactions are more noticeably conflicted than those of his peers. On the one hand he shares Rob's belief that multiple interpretations can apply to the same word or phrase. On the other, like Jim, he believes that an ideal solution can and should be achieved. This leaves Ali exposed to a dilemma between *sticking to his guns* and ignoring contributions that he knows may broaden his understanding, or *inviting challenges* to his ideas that result in less satisfactory interpretations supplanting his own.

The image, below, was made by Ali in the course of the group interview and communicates his experience of the earlier transcribed episodes.



Researcher *This is when it goes badly.*

Ali *It's about when it goes bad cos that person picks that one [points with pencil] and he says 'I think it's this' and then another person picks that one and says 'I think it's this'. And then the one person [points to left hand figure] says 'Let's have a vote' and then that person..... And then them three [points to three figures on the right] ... this one's by himself [points to left hand figure again].... They would go with that one and then when it comes to the answers I would get it right [points to left hand figure].*

Researcher *You can be outvoted by people who don't know what they're talking about.*

Ali *Exactly.*

16.4.2 Contextual data from tests, interviews, meetings and video logs

There are several examples in the transcripts and also the video logs of what might be referred to as 'intellectual dishonesty' on Ali's part. For example, during the early prototyping sessions he is distinguished by his insistence that the group form an understanding of the narrative as a whole.

Ali [To Jim during making, having consulted his text]
You need to do what's in it. You're just drawing random people.

Rob *No he isn't.*

Ali *You don't know what the story's about.*

Rob *Yes we do.*

Ali *What is it about?*

[Silence]

Ali *Exactly. Rob Draw a dad.*

(Appendix D2.8, p.99)

Consequently, Ali sometimes suppresses attempts to interrupt passage reading in mid flow in order to preserve a coherent sense of the plot.



Jim stops reading at **malign** which he reads as **malligen**. Jim scans the cards and proposes **magic** as a solution. Ali slaps Jim hard on the shoulder when he realises he is breaking the rules and makes Jim read on to the end of the paragraph. (Appendix D2.16, p.139)

Yet interrupting passage reading is seemingly acceptable when it is Ali himself who is in possession of a solution that must urgently be shared.

When Rob gets to '*pristine*' Ali shouts '*organised*' and seizes the card with this written on it. Rob ignores him and carries on reading. Ali interrupts him again to test out his proposal of '*organised*' for '*pristine*', much to the annoyance of Sam who was following Rob's reading of the story. Rob shuts Ali up by letting him place the card on the answer sheet and then carries on.

(Appendix D2.8, p.96)

On some occasions Ali is capable of fastidiousness to rival Jim's microscopic attention to print. Here, he carefully monitors the sense of what he reads and invests time in re-reading a problematic phrase in an attempt to repair a rift in his understanding.

Ali correctly reads *door was ajar* and *dent in it* but understands neither and tells the others the text makes no sense. He repeats each phrase twice to check they are correct. He initially reads *trepidation* as *trep-ee-dion* and then reads it correctly.

(Appendix D2.28, p.199)

Under different circumstances, however, Ali will dismiss problematic words and phrases as unworthy of attention, particularly when he feels the group's progress is being held up by unnecessary prevarication.

- Ali tells Jim not to read *malign* as it is probably a made up word (Appendix D2.16, p.139)
- When Rob gets to '*anaesthetised*' and is unable to read it, Ali says '*It doesn't really matter*' (Appendix D2.32, p.319)

This inconsistency in Ali's approach also extends to his epistemological stance. There are several instances where Ali mirrors Jim's predilection for concretising aspects of the text through mime in order to physically evidence his arguments.



John starts to read. Rob says *No! Got worse!* and points to this card. Ali negates this– *It's got damaged because the mattress.. the sheet was pinned to the wall.* Ali gestures with his arms to mime pinning the sheets to the wall

(Appendix D2.28, p.201)



Ali says *Lights glowed in the windows-* but also draws on the wider supernatural theme. Ali gestures with his arm to emphasise the point.

(Appendix D.2.20, p.160)

In other episodes, Ali seems to waver in his epistemological commitments as he reacts to unfolding events. In the exchange below, he and the group are trying to define *distractedly*, which is used in the story to describe the trance like effect of a spell cast on the main character's mother. Ali selects *hazily*, a word which he seems not to understand but intuitively equates with the narrative's *transcendental* theme. However, Jim's reading of the rest of the paragraph brings to light *mundane* data (*heavy bags; early morning*) that lure Ali away from this speculative line of inquiry and orient him to an inferior candidate more consistent with the concrete facts- *tiredly*. It is significant that Ali mimics Jim's physical collocation of card and text in order to confirm this.

Meanwhile Ali picks up **hazily** and places it on the answer sheet, despite the fact he doesn't know what it means. Jim takes **hazily** off the sheet- *You can't just put it there*, and places the card near his copy of the text whilst he checks it. Ali complains to John- *Isn't it hazily*, and John agrees....Jim reads- **Morning Andrew she said hazily**. Jim carries on reading and reads the whole paragraph, including the reference to **heavy carrier bags**. At this point Ali proposes **tiredly** and places this card next to his copy of the text as he reads it. Ali says *If she said morning Andy, she got up before he got up.....Morning is like 9 o'clock so she probably got up 7, 8, so obviously she's....* Jim interrupts, telling John to read the next paragraph.

(Appendix D2.16, p.140)

Whereas Rob's epistemological promiscuity seems calculated and controlled, Ali's is more adventitious and spontaneous, sometimes leading to radical 'about turns'. His exchange with Sam and Rob regarding his selection of *organised for pristine* is another good example of this. One minute, like Jim, he is adamant that his solution is absolutely correct- *It has to be organised*- the next, he is unhappy because his peers will not debate the issue with him and share their evaluation of his proposal- *But we haven't even discussed it*. As a result, Ali greets Sam and Rob's unqualified support for his proposal with the dismay one might expect had it been rejected outright.

Ali does not have Jim's physical presence, nor does he share Rob's rank as an expert reader. Instead, his interactions within the group seem to evolve as a result of his conflicted perception of the task situation. Ali becomes important as a mediator between two epistemological poles in the group- Jim (absolutist/realist) and Rob (relativist/ idealist). Consequently he develops two key roles for himself - *arbitrator* and *tutor*- each demanding expertise in balancing conviction with open-mindedness. The former role can be seen in the following sequence where Ali uses a combination of authority and humour to defuse a dispute between Jim and Rob over the definition of *emaciated*.

Ali feigns losing his temper. *Who is number two?* Jim says he is. *Right, you're number two so you should do whatever you feel*. Rob says *I bet he gets it wrong*. Ali picks up **Hungrily** and throws the card onto the sheet.

(Appendix D2.28, p.200)

His tutoring role, on the other hand, is more serious in intent and is geared to supporting rather than ridiculing Jim in his struggles to keep up with and participate in the group's activities. Ali, as has been said, recognises Jim's

interpretation of the text as being qualitatively different from that of his peers. In the example, below, Ali coaches Jim in strategies for passage reading intended to give him a clearer sense of the meaning of what he reads.

Jim holds the page up to his face when reading. Ali notices that Jim is still not reading the full stops. He stops Jim and tells him to take a breath after *chickens* and again after *cows*. Jim then does this for himself after *off* and *on* and his fluency improves. He looks over to Ali when he reads *in vain*, unsure what this means. (Appendix D2.24, p.178)

16.4.3 Rule breaking and experimentation

Given the above, one might argue that rule breaking is the norm for Ali rather than the exception. However, he has a very different perception of violations that are *visited upon him* as opposed to those he *perpetrates on others*. There are many occasions, such as that illustrated in his drawing of the prototyping activity, where Ali presents himself as a lone voice of reason made victim to the rule of the mob:

- *Never agree with what I say* (Appendix D2.4, p.78)
- *Never agree with what I say- distorting* (Appendix D2.4, p.79)
- *Don't agree with what I say-* (Appendix D2.4, p.79)

In the course of the group interviews following prototyping, Ali set his desire to discuss ideas with others against his fear that this trust would be abused. Working in pairs lessens this risk, he argues, and he identifies John as an ideal collaborator.

Teacher C	<i>Would you rather work by yourself?</i>
Ali	<i>Working the two of us... me and John. I wouldn't work by myself.</i>
Teacher C	<i>It's better in pairs do you think?</i>
Ali	<i>Aye. Not in a big group cos-</i>
Teacher C	<i>Do you think it's better to work in a pair of your choice? Would you rather work with someone you choose to work with or would you rather have someone you were told to work with.</i>
Ali	<i>Choose.</i>
Teacher C	<i>Why?</i>
Ali	<i>If someone else comes then you don't know how you'd work with them.... You would pick someone that you could trust.....</i>
Ali	<i>I like working in a pair, cos when there's too many people... like John. I like working with John cos I can trust him. Some people you can't trust cos they want you to do all the work.</i>

(Appendix H1.4, p. 317)

However, the moral underpinning of Ali's interactions is also contradictory and open to a charge of hypocrisy. Compare, for example, Ali's praise for John, above, with this harsh treatment of him during prototyping.

Ali *Show us then... or you'll go back to your group next week... We'll have Ned tomorrow.*
 John *You'll have Ned?*
 Ali *Aye, cos he learns. Not like you. You're a waste of space.... He is cos he doesn't do any work man. He just sits there. Plays with play dough.*
 Jim *So do you.*
 Ali *I'm telling you what to do aren't I?*

(Appendix D2.20, p.161)

The key phrase at issue in these exchanges is that of *trust* and what constitutes a violation of trust. Ali perceives trust as a form of 'home' - a stable sanctuary gained when people show themselves to be as reasonable and fair minded as he is. We are given a glimpse of what Ali's trust means in practice shortly after his interview with Teacher C concludes.



Ali *Where's Sam?*
 [Looks at John's drawing]
Are you done? [Points]
What's that say?
 John *Solid!*
 Ali *Solid! Do another one saying 'Propa'.... P....R....A.... I'll do it [Grabs the pencil]*



John [Refuses to let go]
 Ali [Wrests it from his grasp]



John [Covers his work with his hand] *No!*



Ali *I just need to write it. [Scrawls the word 'propa' on John's picture]*

Ali's pairing with John creates a 'home' within which he can go through the motions of a discussion whilst, at the same time, controlling all aspects of decision making to his satisfaction. In other words, John's pliability allows Ali to retain his self-concept as an open minded and receptive individual whilst distancing the vicissitudes of a truly open and free debate. Ali unknowingly fills the power vacuum created by Jim's absence with a tyranny of his own.

16.5 Structural and relational conditions of the dilemmatic space occupied by the group taken as a whole

For Group D, the motor that drives their deliberations is not time efficiency but epistemological diversity. Their profligate investment of time in managing and resolving conflict is in stark contrast to the smooth operation of Group A. On several occasions the boys are still working on their retells after the other three groups have packed up and are preparing to leave (e.g. Appendix D2.4, p.81; Appendix D2.16, p.142). The girls in Group A interpreted this as a symptom of disorganisation and poor planning

Kim *The girls looked like they were a better team because they didn't argue.*

but it is clear that the boy's saw things differently. Here are their responses on viewing clips of Group A and D at work.

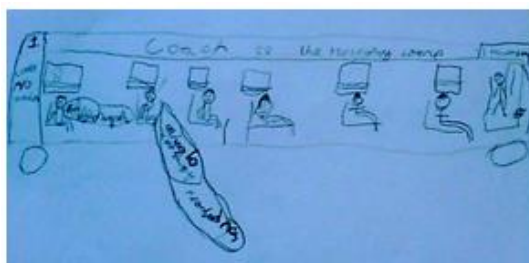
Rob *Arguing with each other helps you to understand more.*

Ali *The girls didn't say much to each other when they were deciding on the words but the boys argued. I think this helped them to get the right word.*

John *Jim disagreed with everything*

(Appendix H1.5, p.321)

The boys' comments are supported by the high quality of the retells they constructed towards the end of the prototyping period (Figure 106) compared to those of Group A (Figure 107).



John

This first one is where they left at 6 to get the coach to take them to the school camp at 'Thomas' farm. He was a bit sad cos they were taking him away from his pets, his computer games and his family and his some of his friends. He realised it was just a holiday and the other kids were cheering up cos they were singing songs and telling jokes. So he totally forgot and that his family would be ok without him.



Ali

Number 3 is about there were five of them and they were told to stack some straw bales. It was hard work for them and the straw scratched their skin. And it made it itchy. As soon as the farmer's back was turned they started messing around.



Jim

Number 2 is about when they went in the farm and there was a large stable with horses, lots of chickens and cows. The cow had a baby and the boy was feeding the baby. (There you go)



Rob

First they built some stairs and then jumped off the top and then we built a fort and then we collapsed on the ground and lay in the sun. That's when I had the idea about the cat. I was lying on the spiky straw that felt like a nail of bed... a bed of nails. Eureka I said out loud. What are you talking about? said Andy. Oh nothing I said. I didn't want to talk about it until I had it clear.

Figure 106 Group D retell (Appendix D2.24, p.183)



Betty

They're getting further and further way from their families and their pets and he's struggling to put his tent up and everyone else has got their tent up and he hopes nothing bad will happen to the family.



Jill

In the afternoons they tried to tire them out by making them go on a walk but it unsuccessfully didn't work and they had their torches on for most of the night.



Kim

It was a few weeks when they were on the farm and then he was distracted by his troubles at home.



Fay

They were on the farm and they built some steps to jump off. When they'd built the fort they were very exhausted and they lay on the ground in the sun. That's when he had the idea to get rid of the cat once and for all.

Figure 107 Group A retell Appendix D2.21, p.168)

What is surprising, perhaps, is not that Group D argued so much, but that they were able to argue at all. As John's remark suggests, Jim took the opposite view to many of his peers' suggestions and he showed himself capable of violence in enforcing what he perceived to be right. The key to the group's dynamism was Ali's sympathy for and understanding of Jim. Unlike the others, Ali seemed able to accept Jim's threats with equanimity. Although he flinches, below, Jim's attempts at intimidation are easily shrugged off and Ali gets his way.



Jim and Ali both want to read first and argue. Jim resolves the argument by lunging threateningly towards Ali and shouting. John stays quiet. Ali notices him and orders him to sort out the task materials which John does. Then Ali, not Jim, starts to read.
(Appendix D2.28, p.199)

On other occasions, Ali uses humour and playacting to minimise the seriousness of conflicts and turn them into a comic performance. This has the effect of lowering the ambient threat of violence and thus encouraging the airing of conflicting views.

Ali again checks **organised** by inserting it into the target sentence. Sam slaps the table and shouts, pointing to his copy of the text. *Shut up! I'm reading it!* Rob mimics Ali by inserting random words into the target sentence for comic effect (**obvious, lovingly**) and says *It could be any of them!* Ali shouts over the two of them, raises a hand in mock despair and repeats his warning *If you get it wrong, don't look at me!*
(Appendix D2.8, p.98)

The dilemmatic space occupied by Group D (Figure 108, overleaf), was free of the rigid procedures by which Group A carefully orchestrated their activities. The boys had no consistent pattern to their seating arrangements, nor were there clear and consistent protocols as to the sequence of passage reading and division of labour in the solving tasks. Along with their flagrant breach of school rules and violent outbursts came a concomitant willingness to test and break the rules of the task activities. It was this group, for example, who first experimented with the notion that multiple cards could be legitimately placed on the answer sheet together if their meanings could not be separated. In this way, toleration of disorder brought with it the potential for new more productive coding procedures to be discovered in a process of semiotic change.

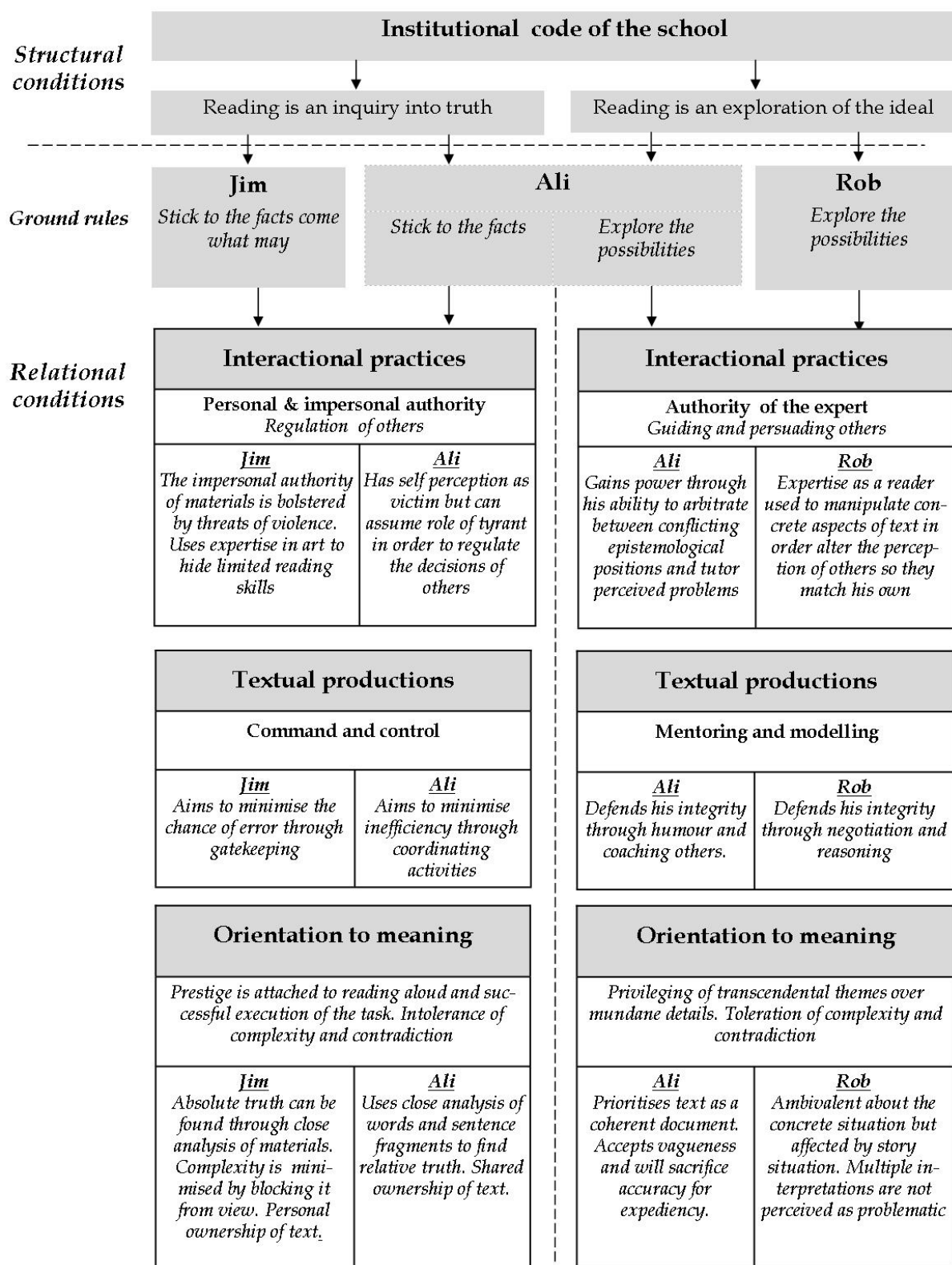
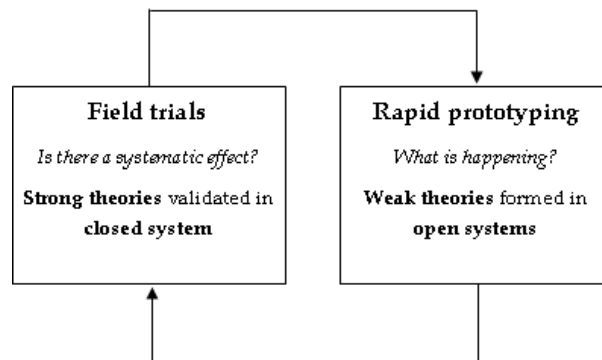


Figure 108 Structural and relational conditions of the dilemmatic space- Group D

16.6 Next steps



Rapid prototyping is a phase in the development of the dilemmatic pedagogy that takes place in an *open* system dominated by O'Neill's (2012) '*hare of intuitive design*'. 'On the fly' adaptations made to the design framework in the classroom, and also the subsequent retrospective analysis of data contained in this section of the thesis, are both forms of interpretation. They are based on value judgements rather than established fact and, so, have no claim to reliability or objectivity in and of themselves. The theories that emerged from prototyping regarding the structural, relational and textual dimensions of dilemmatic spaces in each of the groups are weak in the sense that they are conjectures gained through collaborative inquiry in complex and messy classroom situations. They provide tentative *process-oriented* explanations of causal effect derived from single cases, but do not permit generalisation to other cases based on a rationale of *regularity* (Cobb and Gravemeijer 2008). It is the function of the field trial to translate these weak theories into strong hypotheses that can be subjected to *systematic testing* in a *closed system*. The final section of the thesis proposes an outline for the design and execution of this phase.

Section Five Design of single subject experiment for the testing of prototype designs

Summary of Section Five

Aims

This section sets out the rationale for field trials in the form of a single subject experiment.

Research question

Is there a systematic effect?

Overview of chapters

Chapter 17 Proposed conduct of field trials

Chapter 18 Coda: Contribution to educational theory, practice & research.

Chapter 17 Design of field trials

17.1 Single subject experimentation

17.1.1 *Rationale for use in field trials*

The case was made in Chapter 11 that learning ecologies comprise three separate but interrelated ontological domains:

- The *domain of the real* (includes structures, events & data);
- The *domain of the actual* (includes only events & data) and;
- The *domain of the empirical* (includes only experiential data).

On this basis it was argued that causal mechanisms cannot be directly attributed to events inferred from an analysis of ethnographic data. Instead, it was argued that events are themselves codetermined by structures that are in flux and whose effect may or may not be operative at any one time. Texts produced by a group of students are related to but not determined by the modality of events in that group which, in turn, derives from the particular combination of deontic institutional codes that compete in the ideological matrix. Similarity at the level of data may belie differences in these deep causal structures and vice versa.

Hypotheses derived from ethnographic methods, such as those described in the previous section of the thesis, are therefore probabilistic rather than deterministic - they forecast but cannot predict with certainty the contingencies by which changes in coding procedures and orientation to meaning are effected. Between-group experimental designs employing pre/post-test measures are therefore unsuited for use in the proposed field trials because the aggregated group means they produce serve to obscure these contingencies (Kratochwill et al 2010). These designs assume a uniform trajectory for development that is taken to be free from reversions- a belief which runs counter to the assertion in Chapter 10 that instructional contexts cannot be fully specified in advance. It is on this basis that single subject experiments were chosen as the vehicle for field trialling.

17.1.2 Principles

Single subject experiments are often used to test hypotheses that are developed in the course of clinical case studies (Neuman and McCormick 1995). They are distinct from case studies in that independent variables are manipulated on a principled basis to establish causal relationships (Kratochwill et al 2010). Neuman (2011, pp.384-88) identifies six features that distinguish single subject studies from other experimental designs:

1. *Baseline condition*- the response of each participant in the absence of intervention over a minimum of five data points acts as the control for the experiment. In other words each case serves as its own control. A case can be a single student, an entire class or, as in this case, a small group of students.
2. *Repeated measurement*- similar to time series designs, single subject experiments collect data on a dependent variable at frequent intervals so that changes in response can be matched to changes in treatment.
3. *Variation of independent variable*- an experimental effect is demonstrated when the dependent variable is seen to co-vary with systematic introduction and removal of treatments.
4. *Internal validity*- because subjects act as their own control, there are fewer threats to internal validity than with other designs.
5. *Visual analysis of data*- graphing of data as the intervention proceeds allows the effect of treatments to be assessed 'live'. Hence treatments that are shown to have a detrimental effect can be discontinued and others trialled before the end of the experimental process.
6. *External validity*- single subject designs do not yield statistical significance statistics that justify generalisation to a population. Instead, subsequent studies, rather than replicate an effect, may serve to prove its 'transportability' to other contexts and detail the principles for use this necessitates (Anderson & Shattuck 2012).

17.1.3 Alternating treatments

An alternating treatments design of single subject experiment is one where, following a baseline phase (A), two or more treatments (B, C) are alternated in rapid succession. Each change in the treatment condition is referred to as a phase. To prove an effect, an alternating treatment design should include five repetitions of the alternating combination of phases (e.g. CB-BC-CB-CB-CB), with each individual phase (B or C) comprising a minimum of three data points (Kratochwill et al 2010). Importantly, this design assumes that treatment effects are reversible in the short term- if this were not the case then these effects would be confounded.

17.1.4 Compatibility with research objectives and questions

The aim of the field trials is to establish the validity of the theoretical conjecture expressed by the domain theory, namely:

Students' improved ability to perceive interpretive dilemmas will be associated with repeated shifts from restricted to elaborated coding procedures.

The key challenge is to establish that an improved ability to perceive interpretive dilemmas is indeed caused by the introduction of a pedagogy *addressed* to the particular institutional code that regulates the coding procedures of a given group of students. Field trials, therefore, seek an answer to the type of research question that typifies an alternating treatments design, namely

Is Intervention B or Intervention C more effective in reducing a problem behaviour for this case (or these cases)? (Kratochwill et al 2010, p.3).

The alternating treatments in the proposed field trial will comprise:

- an *unaddressed* version of the design framework (A);
- a *misaddressed* version (B) and;
- a *correctly addressed* version (C).

Retrospective analysis of recorded data will allow triangulation of quantitative changes in dilemma perception with qualitative descriptions of textual conditions, from which the modality of coding procedures can be inferred. Instances where the theory is confirmed can then be tested for their

transportability- *Is there a systematic effect in other contexts?* Disconfirming cases provide research questions for future rapid prototyping cycles-*What is happening that can explain this effect?*

Although seemingly simple in its construction, Kratochwill et al (2010) emphasise the precision needed in the design of these experiments. Treatments should be tailored to specific cases and be clearly differentiated in terms of their design and hypothesised effect. There should also be clarity as to the mechanism by which changes in the dependent variable are connected to changes in the underlying construct of interest- in this case a shift from restricted to elaborated orientations to meaning. Most importantly perhaps, a case should be made as to the reversibility of changes in the dependent variables when the treatments are alternated. In educational design research it is the purpose of model formulation to provide clarity on these points.

17.2 Model formulation

17.2.1 Rationale for model formulation

A domain theory in the context of design-based research is '*the generalization of a problem analysis*' (Obrenovic 2011, p.57). In other words, it is an attempt to specify the *generalised* features of a particular genus of learning ecology. The domain theory constructed in Section Two of the thesis, and shown again overleaf, is a conjecture as to the structural and relational conditions of the generalised classroom ecology within which interpretive dilemmas occur. It models the mechanism by which a dilemmatic pedagogy may effect a change in the modality of the interactional practices, textual productions and orientations to meaning that characterise this ecology, and the changes to perception that may result. Model formulation involves creating variants of this construct that specify particular types of interpretive micro-ecology, of which the cases (Group A & D) studied in prototyping are taken to be paradigm cases.

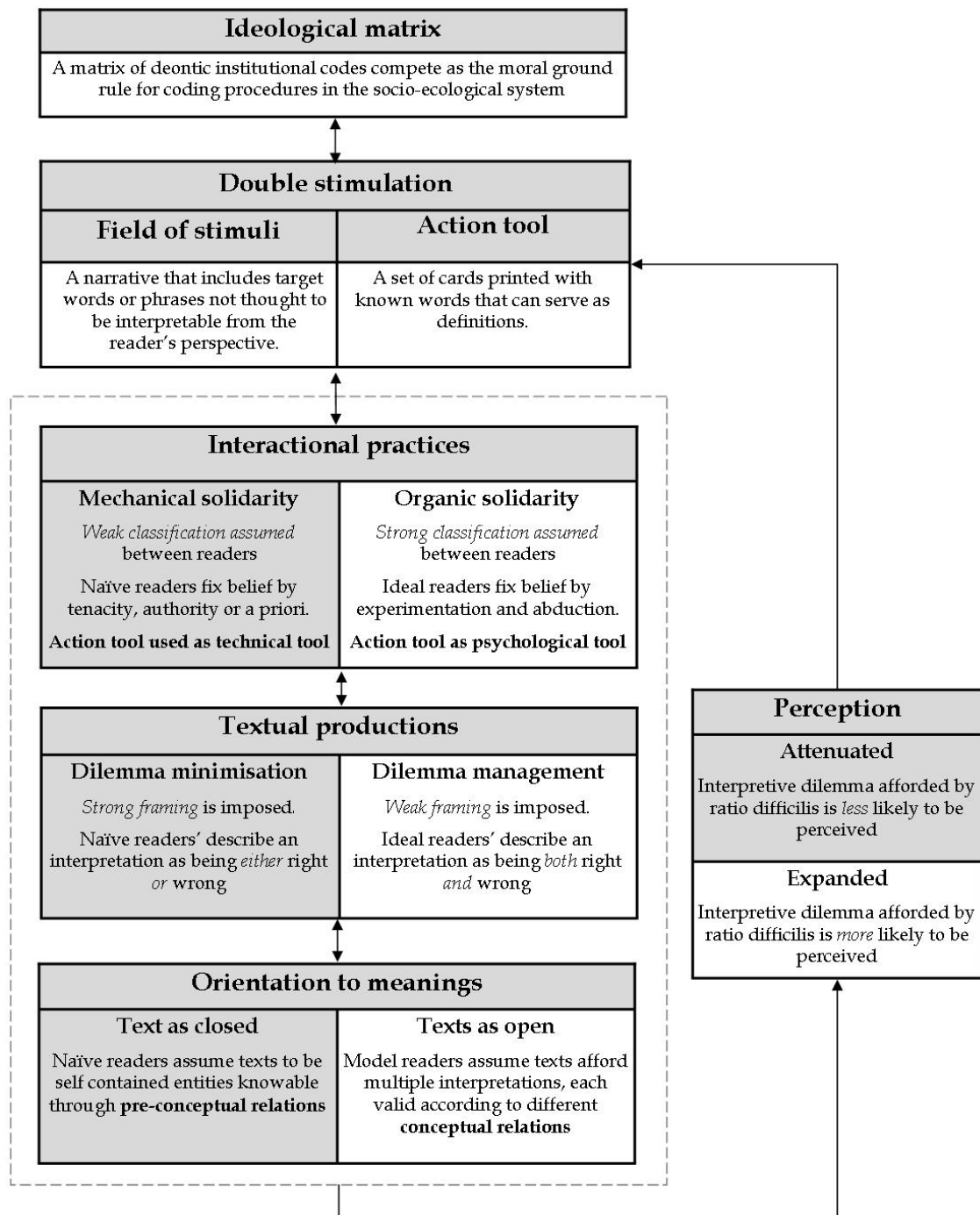


Figure 18 Third and final iteration of the domain theory (see p.125)

Basil Bernstein (2000, pp. 125-26) discussed the methodological challenges of model refinement through analysis of empirical data. He argued that simply matching data directly against a model of 'something' is insufficient because this leads to circular reasoning and confirmation bias. Instead, he suggested that there should be a potential discursive gap at the interface between data yielded by 'something' and the researcher's model of that something.

This gap enables the integrity of the something to exist in its own right, it enables the something, so to speak, to announce itself, it enables the something to re-describe the descriptions of the model's own realisation rules and so change' (Ibid)

Bernstein argued that the principles for description of data should be consonant with, but extend beyond, the principles expressed by the model itself. It is for this reason that an argumentative framework was developed, combining Goffman's (1997) notion of '*focused gatherings*' with Banfield's (2004) description of *structures (A)*, *events (B)* and *experiences* (see Figure 32, below). In that it applies to all learning micro-ecologies, this framework extends beyond the very specific concern of the domain theory- the modelling of micro-ecologies specific to dilemmas in the interpretation of narrative texts.

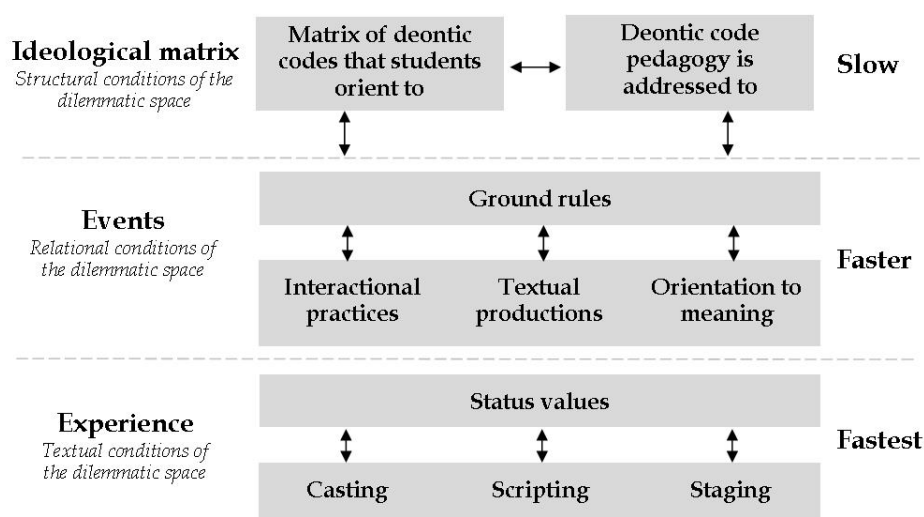


Figure 32 Argumentative grammar connecting data variables, events and ideological structures (see p.177).

The incorporation of Brand's (1994) notion of pacing layers into the argumentative framework is crucial in justifying the use of an alternating treatments design. The framework assumes that each layer of the micro-ecology evolves at a different pace, meaning that rapid changes in the textual conditions of the dilemmatic space do not necessarily mean that a permanent shift in coding procedures or institutional code has been affected. Hence changes in the dependent variables are indeed assumed to be reversible when treatments are withdrawn in the short term.

17.2.2 Macro-coding of data and model formulation

The domain theory posits that different, possibly contradictory deontic codes, may underpin similarly restricted casting, scripting and staging of performances. This appeared to be borne out in the macro-coding of prototyping data. Direct observation and initial viewings of the recorded data during coding suggested a number of common traits in terms of how the students in Group A and D responded to the prototype materials. These included:

- *Collocation of solution cards with texts to bolster the weight of evidence in favour of an interpretation;*
- *Use of physical copies of the text to structure role sequence and allocation;*
- *Spilt proposals made almost exclusively by the most able readers in each group, namely Betty and Rob;*
- *Threats and violent assaults used by Kim and Jim to enforce rules;*
- *Pacification of Kim and Jim when they are passed a pencil;*
- *Jim and Fay's physical isolation and absence from the discussions of their peers;*
- *Jill and Ali's use of mime to communicate their interpretations of words;*
- *Jim and Kim's expressions of helplessness during the making tasks;*
- *Jill and Ali's injunctions that Kim and Jim should make independent efforts to 'read the text' during the making tasks.*

Coding of each of the 34 solving episodes prior to case selection (see Figures 74-81, pp. 251-258) served to reinforce this initial impression. A visual analysis showed that both groups relied predominantly on moves that made direct reference to the concrete materials or were simple statements of fact, with only sporadic appearance of justifications and challenges that were taken to signal a more elaborated orientation to meaning. However, despite these similarities in the raw *data* collected, the underlying *events* in each group seemed markedly different. This first became apparent in a visual analysis of the types of dilemmas enacted by the two groups in the course of their interactions. The overview, reproduced again, below, suggests very different coding procedures were in operation- Group A's geared to minimisation of dilemmas (white and grey squares), Group D's to the production of dilemmas (coloured squares).

		Group A					Group D				
		1	2	3	4	5	1	2	3	4	5
Week 3	1	0.31	0.02	* 0.55	0.12	0.07	1.03	* 0.52	1.14	0.45	1.00
	2	0.29	* 0.16	0.17	* 0.15	* 0.17	1.29	0.16	0.58	* 1.04	* 1.16
	3	0.22	* 0.13	0.27	* 0.14		0.35	* 1.37	0.58	* 1.37	
	4	* 0.17	0.12	0.41	* 0.10		1.12	0.31	2.58	* 0.21	
Week 4	5	0.45	* 0.09	* 0.19	* 0.11		1.19	* 1.22	2.13	3.20	
	6	2.15	* 1.12	* 0.38	* 0.23		2.09	* 3.02	* 1.23	* 0.53	
	7	* 0.48	0.43	0.09	* 0.27		* 0.41	2.01	* 0.40	0.51	
	8	* 0.02	0.43	0.32	* 0.11		1.04	1.16	1.43	* 0.13	

Table 28 Overview of coded synopses (see p.245)

17.2.3 Textual conditions and model formulation

Microanalysis of transcribed episodes served to expose differences in the textual conditions within each group that gave rise to these patterns.

The textual conditions in Group A are summarised again, below.

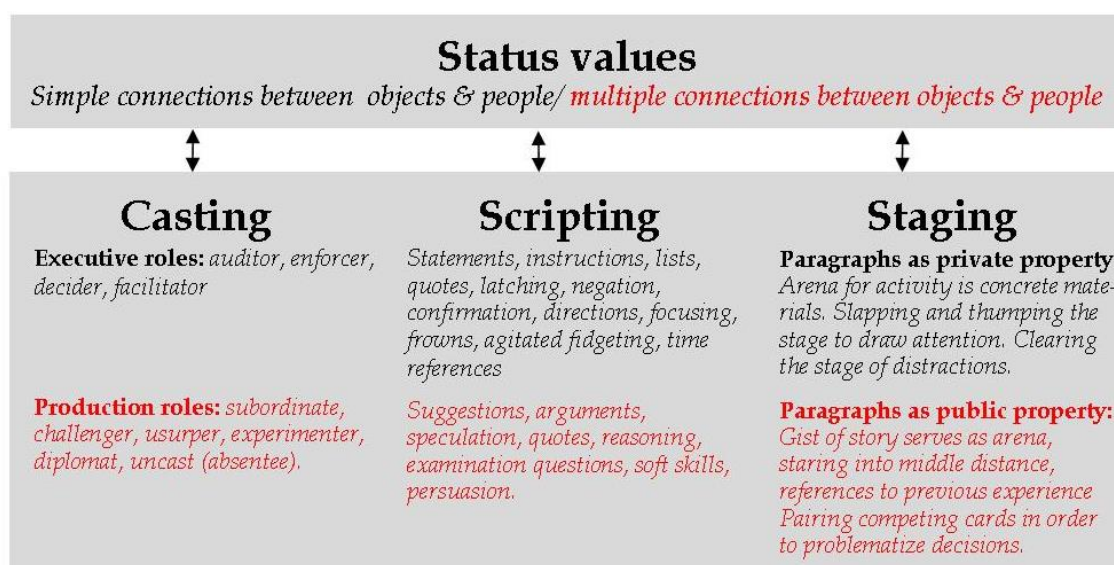


Figure 90 Textual conditions of Group A micro-ecology (see p.284)

Helsing's (2007) observation that teachers achieve dilemma minimisation through recourse to rules, denial of conflict and avoidance of emotional risk is mirrored by the textual conditions in Group A. Here the students prioritised *utility* over *integrity*- they were willing to separate their personal values from their actions in order to achieve a communal goal, in this case the efficient and timely completion of tasks. Rather than rouse Cartesian anxiety by confronting ambiguity, the girls avoided it through resorting to various forms of intellectual dishonesty. Kim defended the boundaries of her role with vigour during the solving tasks, but then alternated to a helpless position during the making tasks. Jill frequently insisted on precision in the interpretations of others, yet ignored data that problematized her own responses to the text. Betty used her expertise as a reader to correctly identify the interpretive dilemmas designed into the materials, but did so only to streamline the snap decisions of her peers. Even Fay, whose 'home' comprised a noticeable isolation from the heat of the group's discussions, was also prone to placing self-protection above self-expression. Although initially more awake than her peers to the interpretive possibilities afforded by the cards and target words, she gradually came to mimic the 'yes/no' evaluations of the others.

The textual conditions in Group D, summarised below, were very different.

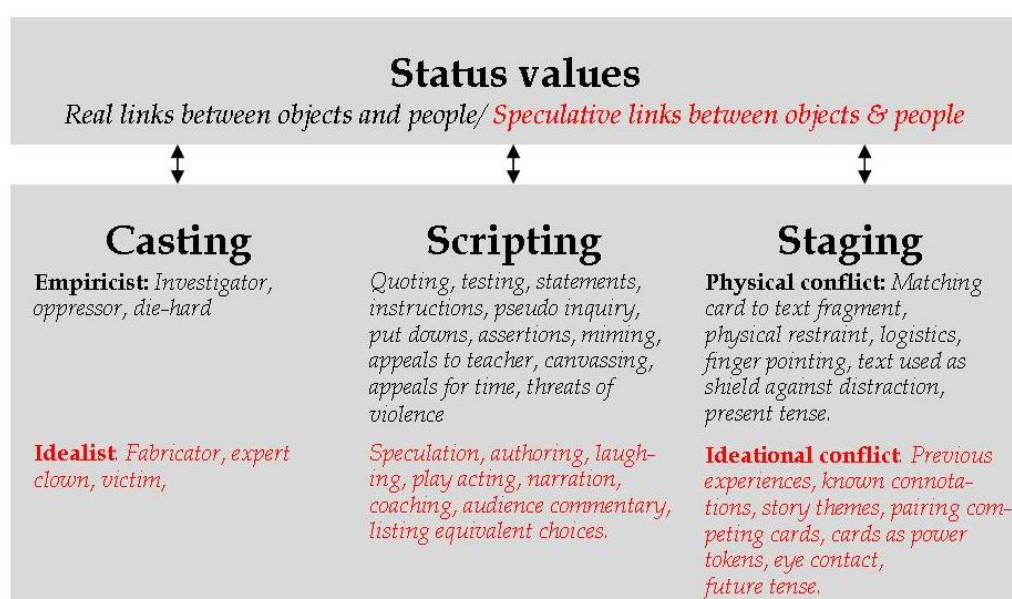


Figure 105 Textual conditions of Group D micro-ecology (see p.348)

Here there was reluctance on the part of key members to dissociate their values from their actions and a greater willingness to defend their integrity. This was perhaps most evident in Jim's positioning of self and others in the dilemmatic space. Time and again he was a lone voice, a proponent of strategies and interpretations that were rejected by the rest of the group. Rather than compromise his beliefs, he used a combination of physical authority and the impersonal authority of textual fragments to force his view upon the majority. Rob was also seen to defend his integrity, this time in the face of opposition to his use of gist based inference as a form of evidence for text interpretation. Through balancing the types of concrete evidence privileged by his peers with references to abstract concepts, he was sometimes able to overcome deadlocked arguments between alternating absolutist positions. Perhaps most impressive of all was the integrity shown by Ali, who worked under the constant threat of sanction. Even in the episodes immediately following his physical assault by Jim, Ali used humour and diplomacy to arbitrate between opposing epistemological camps when he could just as easily have retreated from these conflicts. What distinguished Ali from his peers in Group D was his intellectual dishonesty, without which a group of individuals who each privileged their own integrity would probably have ceased to function as a coherent group. His pivotal roles of arbitrator and tutor both relied on an ability to juggle contradictory qualities of rigour and flexibility of approach.

Thus, rather than respond to a single unitary set of status values, the individual members of each group member appeared to import their own distinct set of values into each instructional situation. Hence, the resulting coding procedures were always contested and could be revised at any time.

17.2.4 Relational & structural conditions and model formulation

As has been said, the performances observed in each micro-ecology were underpinned by status values that were in constant tension. In order to function, therefore, each group developed a set of *utility procedures*- makeshift coding procedures that allowed actors to coordinate their performances and

complete the tasks. For the most part these procedures were regulated by the preferred ground rules of dominant group members. Interestingly, in both groups, the utility procedures were aligned with the ground rules not of the stronger readers but of the *weaker* readers. In Group A, the procedures to which Betty and Fay subordinated themselves, shown again overleaf, originated with the personal authority of Jill, reinforced by the histrionics of Kim. The realist utility procedures of Group D, also summarised below, were powered by Jim's physical presence, again one of the weakest readers in the cohort.

However, the analysis suggested that social status and physical presence may only play a part in the imposition of utility procedures. Part of Jim and Jill's authority also rested upon their alignment with the school's institutional code, as expressed in recordings of YARC test administration. A key factor in Jill and Jim's dominance was their use of concrete materials as a lever against the more abstract and, therefore, challenging ideas of their more able peers. In this respect, the dominant ground rules in both groups mirrored those observed to operate during testing, most notably in the injunctions to '*read around the words*' or '*read it properly*', and also in the technique of collocating words and phrases in order to find solutions to questions. Both these procedures replicate strategies that were encouraged by teachers in the tests and promoted by teachers during meetings.

It could be argued, therefore, that the concrete materials were sometimes toxic to the groups coding procedures because they militated against the kind of experimentation and abductive reasoning that they were intended to stimulate. Once a card has been successfully matched to a fragment of the text, one has physical evidence of a successfully completed inquiry, irrespective of the narrowness of that inquiry. Against this, gist based inquiries that are more complex and disparate are more equivocal in their logic and therefore more risky. They take up more time (Group A) and involve concepts that do not appear on the page (Group D) and may ultimately prove false. The result was the marginalisation of better readers (e.g. Fay) or their collusion with the dominant utility procedures (e.g. Betty and John).

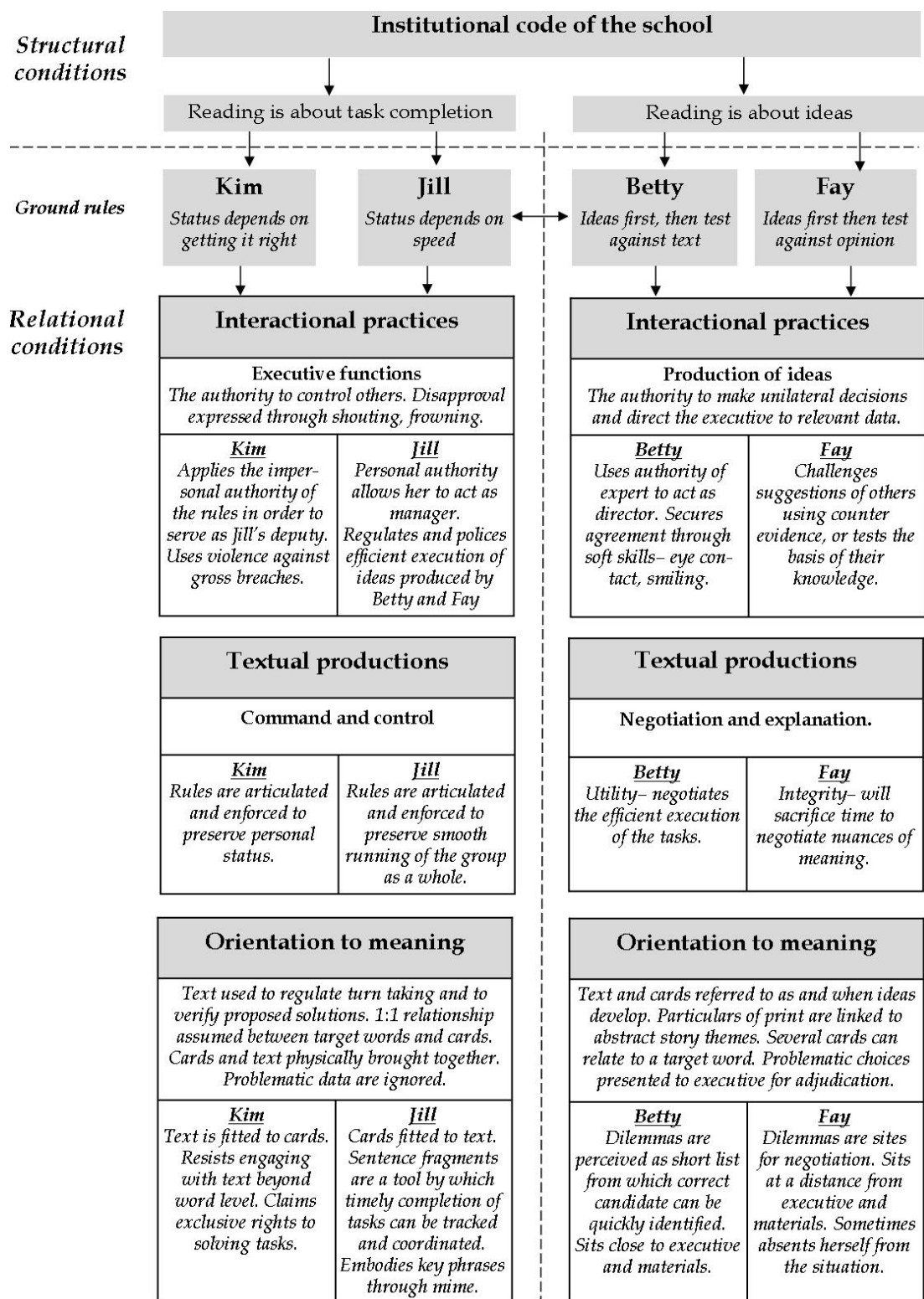


Figure 91 Relational and structural conditions in Group A micro-ecology (see p.309).

Utility procedures are one the left; subordinated procedures on the right.

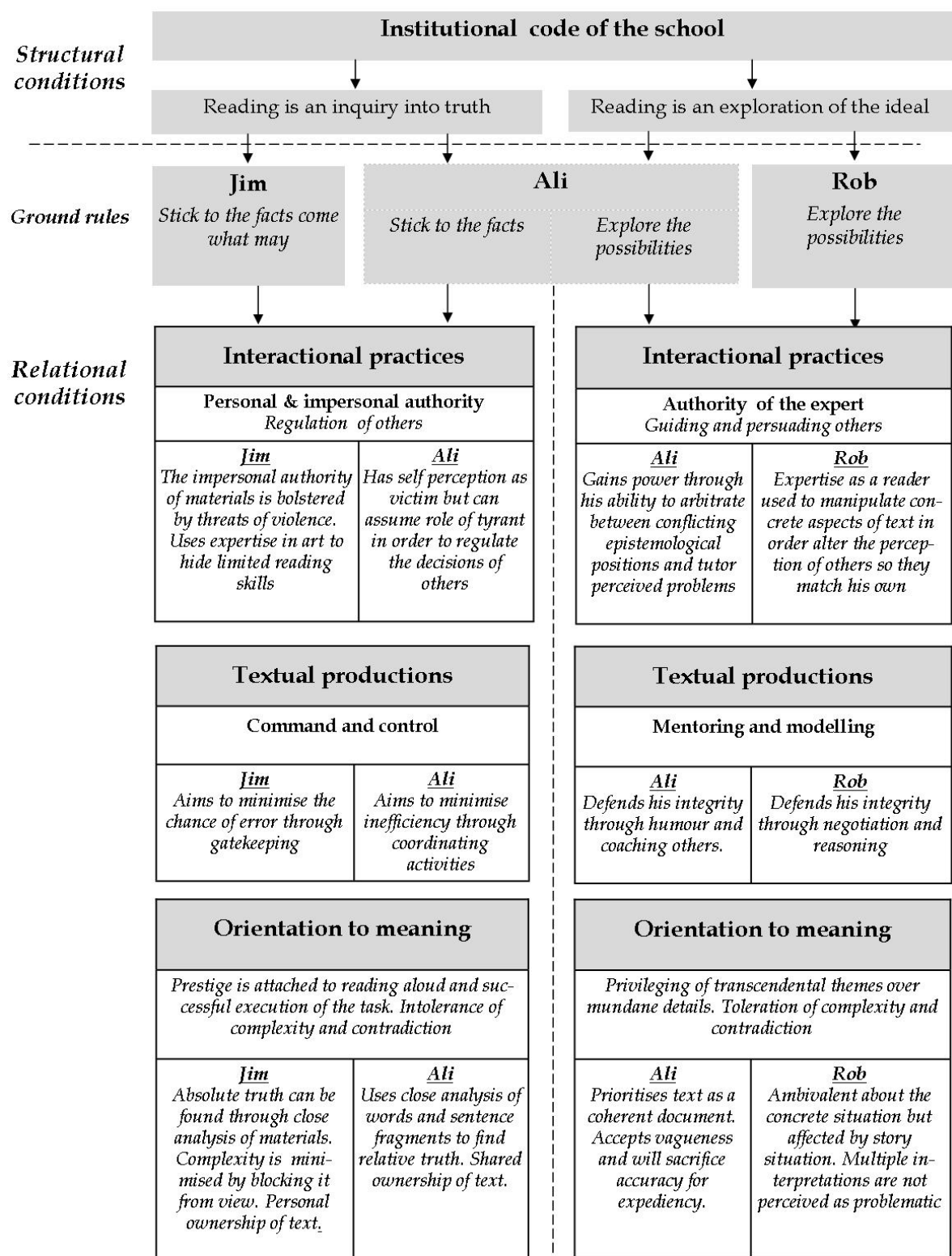


Figure 108 Relational and structural conditions in Group D micro-ecology (see p.371).

Utility procedures are one the left; subordinated procedures on the right.

17.2.5 Ecological resilience and the production of addressed versions of the design framework in field trials

Although each set of utility procedures stemmed from a different deontic institutional code- logistical (*Reading is about task completion*) versus epistemological (*Reading is an inquiry into truth*)- both expressed elements of the same regulatory discourses that Bernstein attributed to the pedagogic device- hierarchical relations, pacing rules and clear criteria for conduct. Through imposing these relational conditions each group was guilty of aberrant coding because they tended to reconfigure task materials intended as an invisible pedagogy as a visible pedagogy. The various ratio *difficilis* designed to signal an open work were often either ignored or distorted in order to preserve the dominant ground rule regulating events in each of the groups. In Group A, dilemmatic choices were minimised in order to facilitate smooth operations; in Group D, intended dilemmatic choices within an epistemological category (e.g. guilt/sadness) were overshadowed by contests between candidates from different epistemological positions (e.g. seatbelt/sadness). In each case, affordances of the task materials were selectively realised or suppressed in order to preserve the dominant value system. Ing (2013) refers to this tendency as 'ecological resilience'.

From the perspective of ecological resilience, those who want to maintain a status quo will work towards strengthening the resilience of a system; those looking for change will look for an opportunity to act when resilience is low. (Ing 2013, p.537)

However, the prototyping data suggest that weakening ecological resilience is not feasible through symbolic means alone. Icons (e.g. photos of work) and symbols (e.g. audio recordings of discussions in other groups) had no effect on challenging dominating institutional codes. On viewing the recorded performances of Group D, Group A relabelled their practices of *thoroughness* as signalling *poor planning*. Likewise, on viewing Group A recordings, Group D relabelled their *efficient* practices as *hasty* practices. In either case, showing and telling were insufficient means to mediate a change in coding procedures. As predicted by the domain theory, this requires redesign of the concrete environment within which a group carried out its interpretive work.

In order to facilitate experimentation and semiotic change in a learning ecology one has to remove or materially frustrate the roles and meaning making practices through which power is exercised. Objects, physical gestures, facial expressions and types of speech serve as concrete metrics upon which the dominant ground rule and its deontic code are anchored. In addressing materials to sever these anchors, one acts to neutralise the methods of casting, scripting and staging by which dominant actors project their values onto a situation. This, in theory, allows the less tangible metrics of the subordinated actors (e.g. gist based inferences, personal experience) to compete on a more even footing, thus making dilemma enactment more likely.

The purpose of model formulation is to hypothesise the status values that anchor a dominating institutional code and its concomitant ground rules in order to forecast the mechanism by which the resilience of a particular genre of micro-ecology might be interrupted. This principle is shown below applied to the *office-type micro-ecology* of Group A- one whose performances are efficient, regular and emotionally neutral.

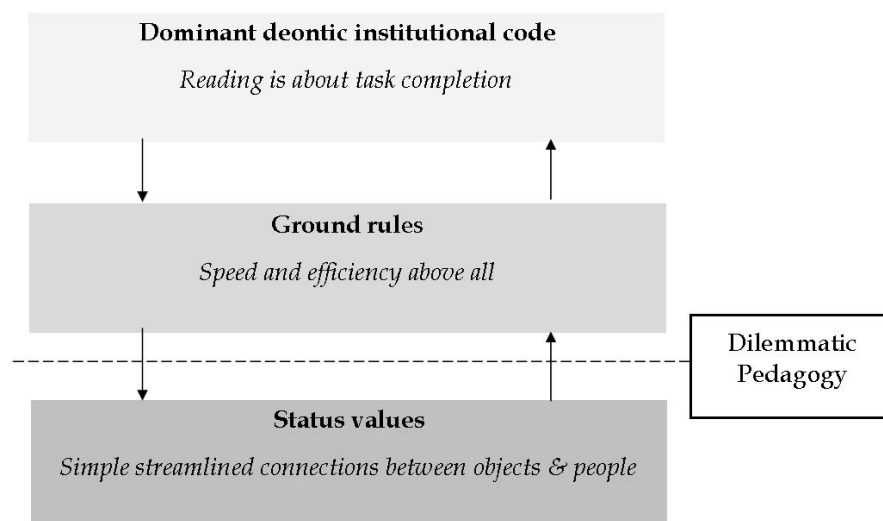


Figure 109 Interruption of an office-type micro-ecology.

The principle is also shown, overleaf, applied to the *courtroom-type micro-ecology* of Group D- characterised by presentation of forensic evidence, cross examinations, impassioned pleas, voting of jury.

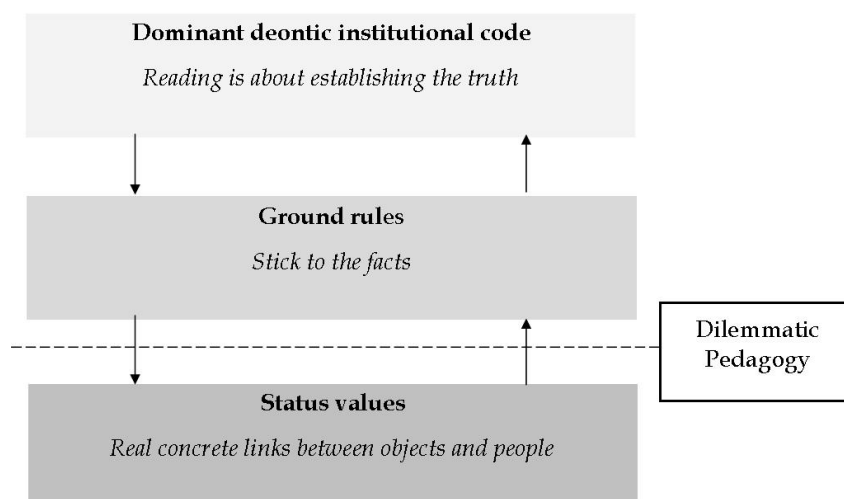


Figure 110 Interruption of a courtroom-type micro-ecology

17.2.6 Modelling interruption of an office type micro-ecology

The model of an office-type micro-ecology, shown in Figure 111 overleaf, is divided into two halves that equate to the restricted and elaborated modalities of the domain theory. The grey shaded area represents the utility coding procedures for the group, to which subordinate members sacrifice their own integrity as interpreters of text meaning.

In this type of micro-ecology, the utility procedures are governed by pragmatic ground rules that posit the text as a tool for the quick and efficient completion of assigned tasks. This militates against the institutional codes of the more able readers which are based on the principle of origination and *idea production*. Their notion that speculation is sometimes to be valued rather than avoided is counter to the convergent logic of the dominant institutional code and is suppressed.

Interactional practices are characterised by mechanical modes of solidarity. The principle method of fixing belief under this regime is by authority, principally the personal authority of the executive. The manager, assisted by his or her deputy, uses a combination of frowns, latched comments and verbatim quotes from the text to expedite decisions and shut down nascent debates. Fixation by tenacity, and the deadlocked arguments that ensue, are

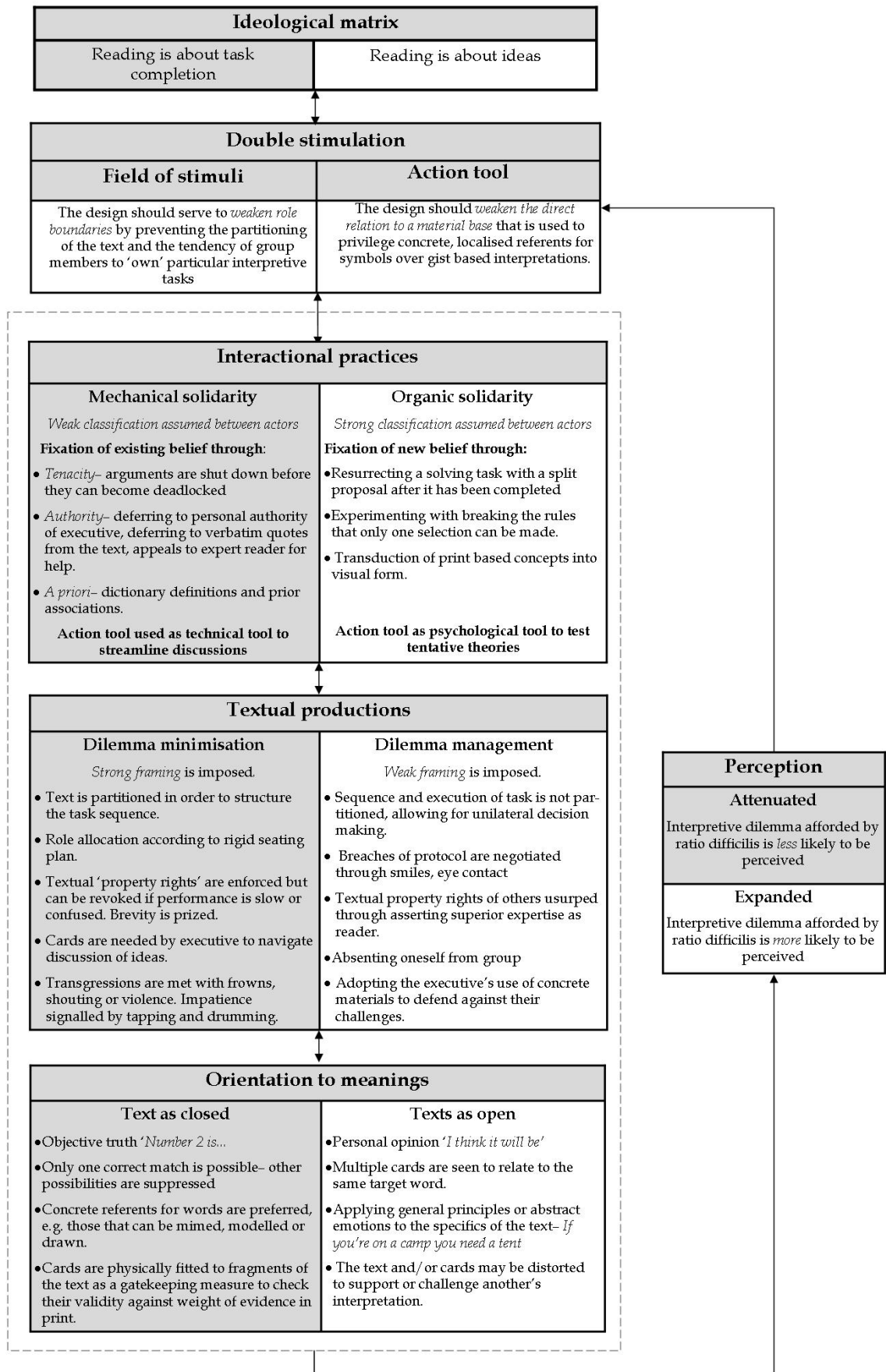


Figure 111 Model of office-type micro-ecology for test during field trials

comparatively rare owing to the time they consume and also the potential they create for challenges to the efficiency of the system. Rather than the cards and texts serving to stimulate divergent interpretations, they are instead used as a technical tool to create an ordered environment that requires only a simple division of labour. The paragraph structure of the narrative is used to concretise role boundaries and sequencing. A rigid seating plan reinforces the partitioning of the text and ensures that hierarchical relations between group members are maintained.

The concrete materials are recruited to ensure strong framing of *textual productions* and dilemma minimisation. Those who are perceived to meet the criteria of speed and accuracy are seated closest to the materials, with more problematic members seated further away. The systemising of interactional practices by means of the cards and texts ensures that exchanges are routinized and predictable. This allows the group to work at speed whilst, at the same time, providing props by which the less able executive can keep up with and audit the textual productions that result. On occasions that a group member is seen to deviate from this system or prevaricate, the cards then serve as a token by which their rights can be revoked and reassigned to someone else.

Orientation to meaning is based on the premise that cards and text both constitute a material base for text interpretation. Speed of operation is facilitated by the notion that only one correct interpretation of a given symbol is possible. Under this logic, an inquiry can be curtailed after a single confirmatory datum is located- data that question these decisions can be justifiably screened from attention, quickly discarded or discredited as irrelevant. The combined effect of these orientations is to reinforce the notion that interpretive dilemmas signal problems that can be localised to individuals, not universal properties of symbols that merit extended deliberation.

A design intended to weaken the ecological resistance of this type of micro-ecology should operate according to the following specifications:

- The design should serve to *weaken role boundaries* by preventing the partitioning of the text and the tendency of group members to 'own' particular interpretive tasks.
- The design should *weaken the direct relation to a material base* that is used to privilege concrete, localised referents for symbols over gist based interpretations.

17.2.7 *Modelling interruption of courtroom type micro-ecology*

The model of the courtroom-type micro-ecology, shown in Figure 112 overleaf, is one underpinned by a *realist* epistemology. The text is treated as self-contained in its meaning, the truth of which can only be established through a forensic analysis of print. This insistence on consistency of interpretation militates against idealistic institutional codes that value the transcendent possibilities afforded by narratives.

The modality of *interactional practices* is marked by a division of labour between areas of expertise. Fixation of belief is initially attempted through tenacity and deadlocked arguments which may be reinforced by micro-quotations from the text or a priori associations and definitions. Deadlock may be resolved through the personal authority of a despot or the expertise of an able reader. Failing this, fixation of belief may be achieved through the impersonal authority of a majority vote, but only if opposition from the dominant actor can be overcome through negotiation.

The text is partitioned in order to regulate the sequence of solving tasks, but these tend not to be perceived as the property of any single group member. Instead, an able reader specialising in gist interpretations acts as director, identifying possible avenues for inquiry; a gatekeeper specialising in close analysis of print restricts possibilities to available evidence in print, and; an arbitrator mediates between the two positions. The *textual productions* that

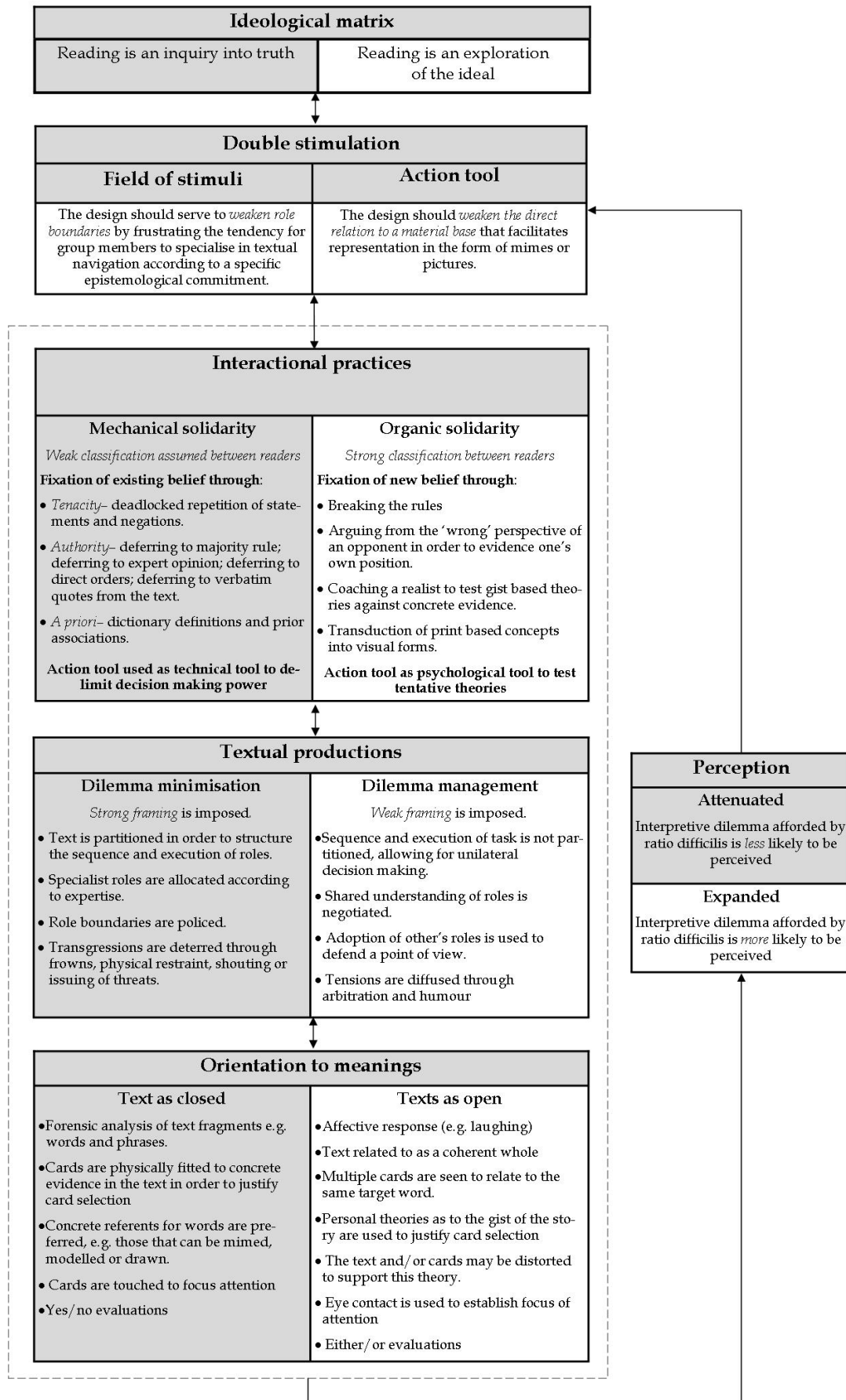


Figure 112 Model of a courtroom type micro-ecology for test during field trials.

result are profligate in their use of time and are sometimes characterised by shouting, physical restraint and threats of violence.

Cards are oriented to as technical tools in that they provide a material base by which opposing camps identify their epistemological positioning with respect to the text. The cards are often touched during discussions and physically fitted to specific phrases in the text in order to evidence the claims to truth that are claimed. Individual words and fragments of the text are brought into direct physical relation, with concrete referents preferred that can be easily mimed or drawn in the later making tasks.

A design intended to weaken the ecological resistance of this type of micro-ecology should operate according to the following principles:

- The design should serve to *weaken role boundaries* by frustrating the tendency for group members to specialise in activities that derive from a specific epistemological commitment.
- The design should *weaken the direct relation to a material base* that is used to privilege concrete referents for symbols that can easily be realised in the form of mimes or pictures.

17.3 Outputs of field trials and next steps

Two directions for future inquiry will follow from the field trials. Visual analysis of data and effect size estimates that provide strong or moderate evidence of effect will be followed by subsequent experiments that explore the transportability of these effects to other sites. Each study would qualitatively specify the conditions under which quantitative effects were/were not transported across different settings, eventually leading to a mixed methods synthesis. Secondly, a return to rapid prototyping would allow effects that disconfirm the domain theory to be explored and new prototypes produced for subsequent field trials.

Chapter 18 Coda

18.1 Contribution of the thesis to teaching practice

The starting point for this thesis was the suggestion that teaching dilemmas occur because assessment practices and the aims of education have parted company. In recent years there has been increasing pressure on schools to nurture creativity and empower students to '*shape the society around them*' and be '*authors of their own life stories*' (DfE 2010, p.6). Yet this worthy ambition is hampered by an assessment culture still stuck in the Social Efficiency Movement of the industrial revolution (Shepard 2000). The result, it was argued, is intellectual dishonesty- the tendency of teachers and students to sacrifice *integrity* (understanding) for *utility* (progress) when faced with ambiguous or dilemmatic situations. Unlike students, many teachers are fully cognisant of this trade-off, as shown in James & Pedder's (2006) 'value-practice gaps', but feel powerless to avoid them. The key pedagogical question is, therefore, what does one do about this? If it is true that current assessment practices in English schools have their roots in mass production, it might pay to consider how industrial practices have evolved since Victorian times.

In its early form, mass manufacture was geared to meeting a uniform need that applied across a population. Back then you could have any colour of Ford so long as it was black- nowadays, students can learn whatever they like so long as it appears on a GCSE mark scheme. In the field of manufacturing, this simplistic model of supply and demand lasted only so long as consumers could be persuaded to buy what they were told they *needed*, rather than what they themselves *wanted*. With the advent of the 1960s counter-culture, this was no longer the case. People began to lay claim to the very freedoms of self-expression that the DfE now promulgate- to be free to live a life that serves one's personal values and is therefore meaningful. This presented manufacturers with a problem that, I would suggest, is very similar to that which faces teachers in classrooms today- namely how does a factory geared to catering for a standardised *need* respond to a myriad of individualistic *values* and beliefs?

For the US business community of the late 70s, the answer came in the ‘lifestyle profiles’ developed by, amongst others, The Stanford Research Institute in California. Through cleverly structured questionnaires and focus groups it was demonstrated that behind the seemingly infinite variety of consumer types lay categories into one of which most people fell. Armed with a typology of lifestyles, production processes and planning could be refined so as to appeal to a range of values rather than cater en masse to a single need.

The parallels with classroom practice are striking in my view. Here, schools charged with ‘delivery’ of curricular content, are faced with complex learning environments where values and affect fluctuate from one student to the next, and from one moment to the next. Teachers, positioned at the interface between curricula and the learner, are left exposed to the unmanageable blizzard of knowledge-based dilemmas that inevitably results. In effect, teachers are compelled to take ownership of value judgements that are not theirs to make. For this situation to change, pedagogies would need to be developed that alert students to such dilemmas and inculcate skills in their management. However, targeting students’ experience in this way is a profound pedagogic problem—one that Hotam and Hadar (2013) suggest has been largely neglected in the education research literature to date. The paucity of studies comparing teachers’ and students’ experiences of teaching dilemmas would suggest they are correct in this assertion.

However, the pedagogy as planned by the teacher, curriculum or school leaders can in fact differ quite significantly from what actually acts on the students’ cognitive and affective aspects mentioned above.Although not entirely unfamiliar in the field, this interplay between pedagogy and experience has been relatively understudied in the literature (Hotam & Hadar 2013, p.386).

This thesis advances the argument that the enactment of interpretive dilemmas can serve as a unit of analysis in developing, designing and researching dilemmatic pedagogies that are tailored to the particular values and beliefs of those who experience them. The ethnographic methods used in prototyping have much in common with the focus group techniques applied in marketing. In both cases the aim is to observe ‘customers’ interactions with a

‘product’ in order to gauge the fit between values and affordances on its reception. Rather than differentiation solely on the basis of need (test scores or ability level), variants of a pedagogy can be produced that anticipate different deontic orientations towards its meaning. The emotional commitment of the children observed in the prototyping sessions only makes sense if they are understood to have had distinct social and moral imperatives which their interpretations served. Confronted with similar emotional turmoil with respect to Balinese cockfights, Geertz explained it thus

.....the imposition of meaning on life is the major and primary condition of human existence (Geertz 1993, p.434)

Much as there are a limited number of lifestyle categories in market research so, it is argued here, there are likely only a finite number of micro-ecology sub-types that would need to be modelled before students’ interpretive practices could be forecast and problematized through the design of bespoke concrete materials. Establishing these types, be they *office-type*, *courtroom type*, or other allows the principled manipulation of dilemmatic affordances that are then realised and experienced as naturally occurring phenomena by students.

This, however, raises the issue of ethics and power relations in educational practice. Industry’s use of observational studies was in the service of a profit motive- to learn how to manipulate values in order to exploit consumers and make them more pliable. Such a view of education goes against all the arguments that have been recruited to this thesis, not least those of Basil Bernstein. Rather than sell an identity to students, the proposed aim is to provide a repertoire of value perspectives by which they can learn to position themselves in the course of their social lives. The thesis argues for the deliberate stimulation of interpretive dilemmas as a vehicle for tutoring students in the art of autonomous symbolic control- a means by which one can adopt and adapt the position of another as one’s own. In this sense, the thesis is aligned with those who call for a more democratic dimension to education. Jeanette Winterson, commenting on the growing dominance of *literacy* over *literature* teaching, put it thus.

How you find your own voice? What's the difference between personal conviction and authority in the world? Is it your story or a public story? All that navigation between private lives and public worlds- this is what the novelist is so good at, and how you deal with moral dilemmas, because no two situations are alike. (BBC 2013)

Narrative fiction, in the form of the novel, has a central part to play in the pedagogic innovation proposed in this thesis. One of the identifying features of a novel is that it presents readers with an abstracted model of social life with which they can experiment. Through a novel's artistic system it is possible for a reader to begin to perceive and understand the complexity of social relations and their place in them. The point of students' participation in the intervention groups is not to gain a better reading of a novel per se, but a better reading of themselves and their position(ing) in the micro-ecologies in which they find themselves. Interpretive dilemmas enable students to realise a new orientation to the novel and so to each other- one that recognises integrity as a factor in all communication, one that should always be kept in full view and balanced against the necessary survival instincts of utility. This, I would argue, is the essence of what is commonly referred to as 'lifelong learning'.

18.2 Contribution to educational research methodology

Educational design based research (DBR) is a field of interventionist study which claims to take the complexity of classroom contexts seriously. I would suggest that this is both a strength and a weakness of the approach. The value of DBR rests on its intent to marry pragmatist, praxis based modes of collaborative inquiry with the refinement and testing of transportable theories of learning. Here also lies its central methodological hazard. Through attempting to satisfy two epistemological masters, the design-researcher risks satisfying neither, and being accused of conducting '*pseudo-experimental research in quasi-naturalistic settings*' (Brown 1992, p.152). From its inception, engagement in design based research has been perceived as potentially toxic both to a researcher's academic tenure and his or her ability to publish (Collins et al 2004). In terms of my own experience of research in this area, I am inclined to repeat this warning.

The hazards of DBR, such as they are, stem from the fact that it is not (yet) a methodology but a set of principles around which a coherent methodology *might* be formed to address a given problem. The programme structure developed in the thesis, reproduced below, is specifically tailored to the design of classroom micro-ecologies conceived as ‘*double voiced*’ phenomena- as semiotic systems that are simultaneously open and closed in their logic.

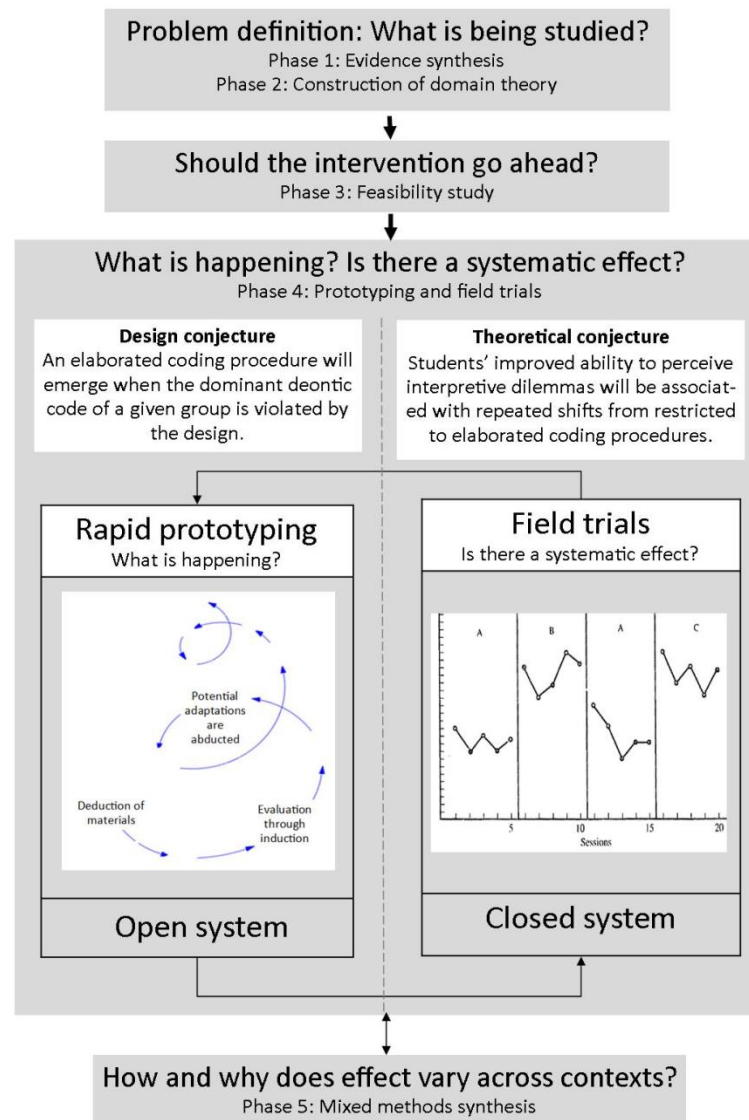


Figure 26 Dialogic DBR programme for the design and research of learning ecologies (p.163)

Within this structure, design and research are coordinated so as to bring data from naturalistic and controlled settings into a dialogic relation. In accordance with this dialogic principle, the proposed programme structure treats the design problem as essentially unfinalisable and unsolvable. This reflects the fact that the unit of analysis, the interpretive dilemma, is itself an unfinalisable

construct- to choose is always to lose. The aim is not to converge on a single ideal solution, because no such solution can be said to exist. As with Eco's novel, the design variants produced through the programme have the property not of a local dictionary but of an encyclopaedia- one that can be part described but not mapped in its entirety. The telos of research is not convergent but divergent, over time identifying increasing numbers of variants each tailored to different micro-ecological systems in the universe of the total eco-social system.

If it has not been possible to address all the criticisms levelled against DBR, the proposed programme structure does answer some of the principle concerns expressed in the literature. These are summarised in Table 33, below.

Issue	Criticism of DBR	How addressed
Replicability	Inseparability of design and context means that one cannot posit universality of treatment. Use of a design cannot be specified in advance. (Hoadley 2004)	Models serve as a conceptual corridor for teachers. They set out the general direction of possible learning processes, not a rigid linear trajectory.
Lethal mutations	Democratic forms of DBR, premised on user adaptation, mean that the theoretical basis for a design can be undermined via a lethal mutation. (Brown & Campione, 1996)	The coupling of ethnographic methods in prototyping and single subject experiments in field trials militates against 'on the fly' design revisions that reduce the intended effect of the pedagogy.
Power	Should theoretically promising conjectures be allowed to transform established systems in schools? (Dede 2005)	Rapid prototyping does not require the design to be 'frozen' so its effects can be tested. Video of enactment of the design serves as a boundary object in team discussions of how it might be adapted. Field trials are an opportunity for both researcher and teacher variants of the design to be tested under more controlled conditions.
Validity	... design-based research is held out as a fruitful methodology for generating conjectures about the causal mechanisms that explain how innovations work, but is incapable of validating such conjectures. (Sandoval 2004)	The dialogic format of the proposed programme structure means that conjectures generated in an open system are also subject to systematic test in a closed, controlled system.
Generalisability	Claims may not be generalizable to other contexts of implementation where the researcher does not so directly influence the context. (Barab & Squire 2004)	The programme structure is not configured to produce a finite solution with a generalizable effect. The use of mixed methods synthesis rather than meta-analysis is in recognition of the fact that effect will vary across contexts and that the causes of this variation is, in itself, an object for analysis.

Table 33 Critiques of DBR and how they are addressed by the thesis methodology

One further methodological contribution concerns a comment from Geertz (1973) regarding the publication of anthropological research in the 1970s.

Most ethnography is to be found in books and articles rather than in films, records, museum displays or whatever... Self-consciousness about modes of representation (not to speak of experiments with them) has been very lacking in anthropology. (p.19)

Since he wrote this, we now have web-based tools at our disposal for the sharing and dissemination of ethnographic data in the form of video, sound, artefacts and so on. These, however, are still a form of broadcast in my view- they are addressed to everyone and so address no one in particular. I would argue that pedagogic designs, arrived at through cycles of ethnographic research across multiple settings, might serve as an experiment in new ways to publish in this field. Design variants and their principles for use not only represent the values and lived experiences of those that used them, but are themselves texts that are shaped and interpreted by those that go on to use them in other settings. Design, then, is a 'show not tell' form of publication that one 'reads' through experience of its effect on one's own context.

18.3 Contribution to theory of learning processes

Following the tenets of DBR, to design a dilemmatic pedagogy is to design a model of the micro-ecological system of which it will form a part. This presents the would-be designer researcher with a serious challenge- how can the anatomy of these complex systems be specified and by what logic can research methods be logically derived from them? This is the focus of a recent paper on the use of theory in design-based research (Sandoval 2014) which pointed to the need for greater specificity as to how learning ecologies are conceptualised.

In light of this, a key contribution to the field of educational design based research is the formulation of a domain theory of interpretive dilemmas. The theory, shown again overleaf, clarifies the components of this type of micro-ecology and the relations between them. It is a bricolage that achieves this end through the coordination of concepts from a wide range of research traditions- principally sociology, semiotics and socio-cultural psychology. Although many

of these theoretical fragments have been assembled elsewhere, this has not before been done as a means to conceptualise an instructional problem space prior to development of a design solution.

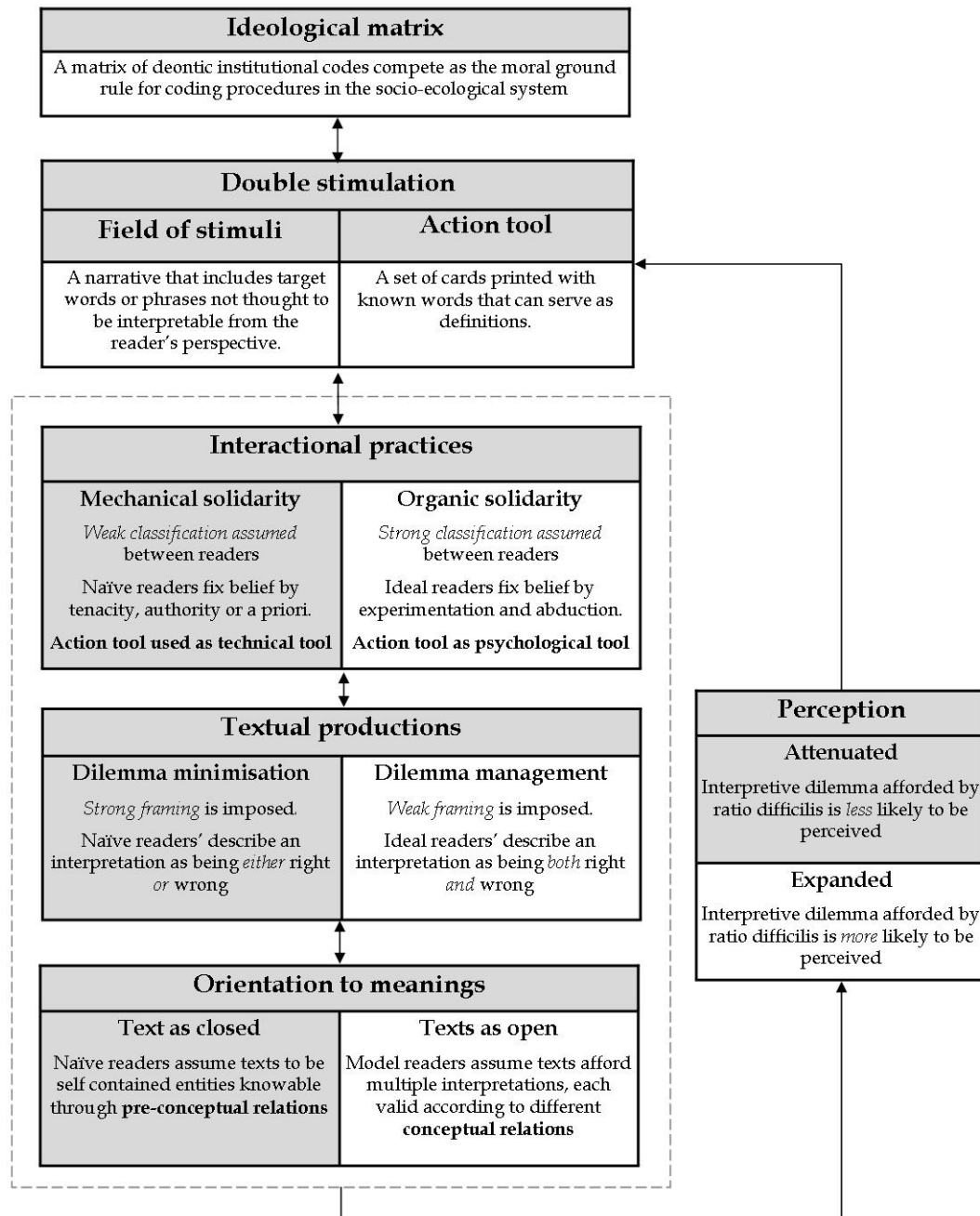


Figure 18 Third and final iteration of the domain theory (see p.125)

A further contribution is the development of an argumentative grammar by which researchers can link ethnographic data to the refinement of such a model. The grammar, shown again overleaf, provides a response to the problematic issue of theory formulation from qualitative data and, through the

separation of data, events and structures, gives an account of how conflicting performances may, in fact, stem from the same ‘deep mechanisms’.

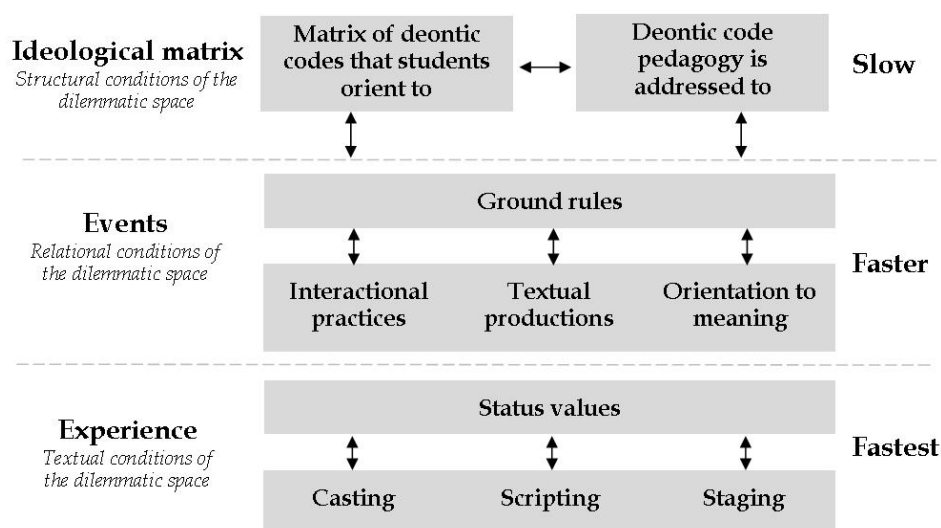


Figure 32 Argumentative grammar connecting variables, events and structures in a micro-ecology (see p.177)

18.4 Future research

At this juncture it is traditional to discuss potential directions for future research. In the short term, the next step in the development of the pedagogy is the execution of the single subject experiment outlined in the previous chapter. To set a course of action beyond this horizon is problematic given the way texts have been conceptualised in the thesis. Were research a linear route from A to B, or a maze leading to a definite centre, it would be possible to sketch out a path that others could follow if they so choose. However a text, be it a novel, a theory, a methodology or a pedagogic practice, has no centre or predetermined structure. Movement through it is more akin to navigating a labyrinth, with each juncture opening up new possibilities and directions for travel. With this in mind, I have no definite future plans to share with others interested in this type of work- only my best wishes as they forge their own unique path through it.



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Paper based rapid prototyping of
a dilemmatic pedagogy for the
interpretation of narrative texts in
classrooms

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Two Volumes

Volume 2: Appendices

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Appendix A Information sheets and consent forms

A1 Information sheet for gatekeepers

The research team

The research is being carried out towards the completion of a doctoral thesis under the supervision of the School of Education at Newcastle University.

If you are interested or would like to know more you can contact myself or my supervisor, Dr Simon Gibbs, at the addresses below:

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NE1 7RU

Telephone

0044 191 222 8456

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carl.towler@newcastle.ac.uk

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Telephone

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Simon.gibbs@ncl.ac.uk

Overview of research

Aims and objectives

The project focuses on Year 7 students identified by the school as reluctant or underachieving readers. It is not, however, targeted at students registered as having Special Educational Needs. The aim is to design intervention materials based on patterns in the way they talk about texts and the 'rules' that they use when they work together to interpret them.

Structure of the project

Feasibility study (Autumn term 2011)

This involves short 'one off' sessions of around half an hour in length where small groups of around six students work with a designed set of materials. These consist of a narrative text and a problem solving task. The aim, at this stage, is for staff at the school to understand the premise of the design and come to a decision about any future timetable space that can/should be committed to the project

Prototyping and debrief (Spring and Summer terms 2012)

This phase consists of daily 45min sessions carried out over a period of four to six weeks. Again, these sessions involve groups of around six students working with narrative texts and problem solving tasks. The aim during this phase is to develop sets of materials and procedures for a controlled intervention.

Field trials (Summer 2013)

Field trials take the form of a controlled intervention that involves daily 45min sessions over a 6-8 week period. The aim is to establish if the prototyped materials developed in the previous phase have a systematic effect.

Debriefing

Following the prototyping study a presentation to all staff at the school will be made. The aim will be to discuss patterns of talk that have been observed and prototype designs that these observations suggest. Extracts of video and samples of coded transcripts will be used to illustrate key findings.

Implications of involvement in the project

What results can be expected?

The approach taken in this project is, as yet, unproven. There is no guarantee that participation will result in an increase in comprehension development for all, or indeed any of the students who take part.

Right to withdraw

The school, its staff and students have the right to withdraw from the project at any time they so wish before during or after the collection of data at the school.

What does each session look like?

Each session lasts approximately 45mins. A class of around 20 students works in groups of 4-5. The generic structure of a session is as follows:

Reading (5mins)

Students each have a copy of a text and take it in turns to read aloud.

Independent problemsolving (15mins)

Working together, the students try to solve a problem that relates to the text.

Response to text (20mins)

The students collaborate to plan and construct a retell of the text as they have interpreted it.

Retell (5mins)

The students perform a retell of the text.

Testing of students

Feasibility study

There will be no testing of students prior to or following the feasibility study. At this stage, the aim is to work with groups of students that the school identifies as reluctant or underachieving in reading. School tracking data will be used for this purpose.

Prototyping study

Prior to prototyping, all students will be assessed using the York Assessment of Reading for Comprehension (YARC) battery. This consists of a battery of tests administered individually over a period of around 45 minutes, including

- *Single word reading accuracy*
- *Reading rate*
- *Fluency*
- *Comprehension*

The aim of testing is to profile the students in terms of their reading skill, not to measure improvement in ability. This data helps to put into context the ways that different students are observed to interact with the designed materials during prototyping. The test data is used to develop explanations as to how and why the prototype materials differ in their effect on students.

Field trials

The field trials will be preceded and followed by administration of the YARC battery in order to establish the systematic effect of the designed materials.

Protocols for conduct of the research

Storage of data

Assessment data yielded by YARC battery

Only anonymised data will be taken off site and these will be stored on a secure drive at the university or an encrypted portable drive when in transit. Paper copies of test materials will be stored in a locked filing cabinet.

Video/audio recordings during the intervention sessions

Each session will be video recorded in its entirety. This provides a visual record of who is talking at each point in time and captures any non-verbal gestures that may accompany these comments. In addition, voice recorders are placed with each group. This ensures that talk during the 'paired rehearsal' and 'group task phases' is captured clearly so that it can be transcribed accurately. In addition, focus group interviews will be carried out in order to gauge students' perspectives on the development of the intervention. Again, these will be video recorded for analysis. Audio and video data taken from the school will be stored on a secure drive at the university. Students' real names will not appear on any resulting transcripts and their faces will be pixelated. Details of the students' uniform (e.g. badges, trim, ties) will also be obscured as an additional measure to protect their privacy.

Participation of school staff in the research

The programme will be delivered by the researcher in order to ensure a consistent approach. However, it is intended that a designated member of staff from the school also attend and participate in the intervention sessions. There are two reasons for this.

Teachers as partners in research

Firstly, an important aim of the project is that any new knowledge is developed with and alongside teaching staff rather than solely by the researcher. One way that this might be achieved is that researcher and staff members discuss recordings of student activity both informally during the sessions and later during meetings. In this way, both reflections on their own professional learning as well as the perceived impact on students can be captured over time.

Risk management

Secondly, it is important that a staff member is on hand who is both familiar with any potential behavioural issues that students may have and is conversant with school protocols in dealing with such incidents should they arise. The researcher, not being a contracted staff member, is not in a position to make such judgements and cannot, therefore, ensure the safety of the students if working in isolation.

Informed consent

The following measures have been taken to ensure that the research meets the standards laid down by the ethics committee of the School of Education at Newcastle University:

In order to ensure that carers are able to give **informed consent**, information sheets have been prepared that lay out the following:

- The aim of the project
- How children are screened
- The length of the programme
- How each session is structured
- The data that will be collected
- Measures to protect confidentiality
- Measures to safeguard recorded data
- The researcher's qualifications
- The right to withdraw consent
- Complaints procedure
- Contact details of the first supervisor

In order to ensure that children are able to give **informed consent**, information sheets have been prepared that lay out the following:

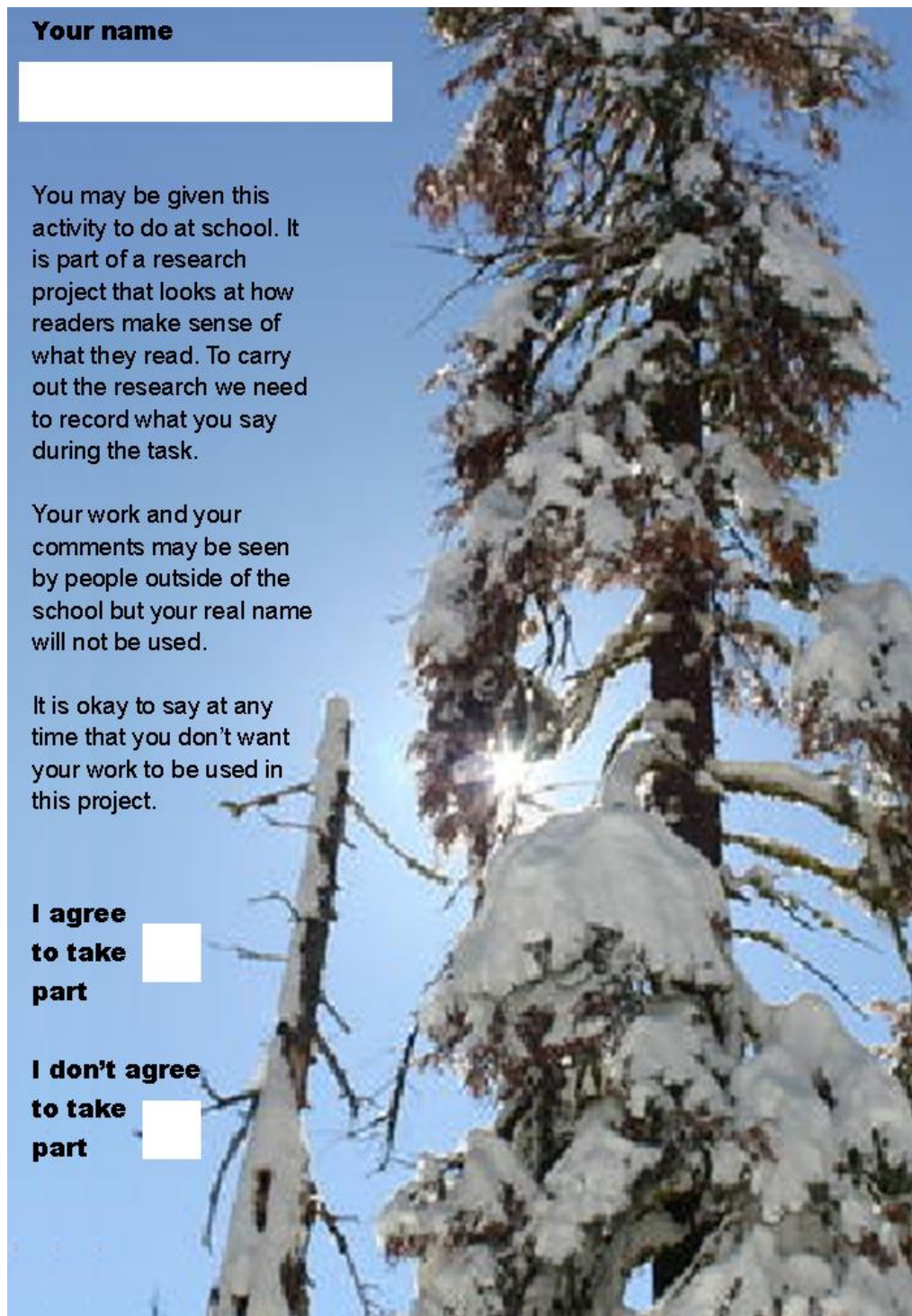
- The aims of the project
- How each session is structured
- The length of the programme
- The data that will be collected
- Measures to protect confidentiality
- Measures to safeguard recorded data
- The right to withdraw consent
- Contact details of the first supervisor

Incidents and complaints

Managing risk. In the event of an incident during data collection the researcher agrees to follow the procedures laid down in the school behaviour policy. The school should make the researcher aware of any pre-existing behavioural concerns and protocols before data collection starts.

Complaints procedure. Complaints as to the management and conduct of this research should be forwarded, in the first instance, to Dr Simon Gibbs at the address given on the first page of this document.

A2 Combined student information sheet and consent form used in feasibility study



Your name

You may be given this activity to do at school. It is part of a research project that looks at how readers make sense of what they read. To carry out the research we need to record what you say during the task.

Your work and your comments may be seen by people outside of the school but your real name will not be used.

It is okay to say at any time that you don't want your work to be used in this project.

I agree to take part ☐

I don't agree to take part ☐

A3 Information sheet and consent form for carers

Information sheet for carers

What does the research aim to achieve?

The research project is targeted at Year 7 students who don't like reading or find reading difficult. The aim is to observe the different ways that these groups of students talk about written texts in order to design materials that may help them to improve.

What is involved?

The students will be tested to check their reading ability at the beginning of the programme. The tests are administered individually and normally take around 45 minutes to complete. This will allow us to match our observations to students' ability in reading.

The taught sessions will be planned by the researcher who is a qualified and experienced literacy teacher. Each session involves around 20 students working in groups of 4-5. They all follow the same basic structure:

Reading (5mins)

Students each have a copy of a text and take it in turns to read aloud.

Independent problem solving (15mins)

Working together, the students try to solve a problem that relates to the text.

Response to text (20mins)

The students plan a 'retell' of the text as they understand it.

Retell (5mins)

The students perform a retell of the text.

How long does it last?

The research will consist of daily 45minute lessons delivered over a four week period.

Recording of the sessions

The lessons will be video and audio recorded, so that the children's talk can be studied. These recordings will be stored on a secure drive at the university or on an encrypted portable hard drive. It will only be viewed by research staff at the university, the students themselves, or teaching staff at the school. Your child's real name will not be used when the research is written up. Students' faces and uniform (e.g. ties, badges) will be obscured in any still images from these videos that are used.

Right to withdraw consent

Signing the attached consent form does not commit your child to participating for the entire duration of the programme. You have the right to withdraw your consent at any time during the programme. You can withdraw consent for your child's data to be used at any time during the programme or after it has finished.

About the researcher

The research is being carried out by a doctoral student, Carl Towler, who is also employed as a researcher at Newcastle University. Carl is a qualified teacher with experience as a local authority literacy consultant. He can be contacted at:

Room 2.52A,
School of Education Communication & Language Sciences,
King George VI Building, Newcastle University,
NE1 7RU
Telephone 0191 2228456
Email: carl.towler@newcastle.ac.uk

Complaints and queries

Queries or complaints about the management of the programme should be forwarded to the supervisor, Dr Simon Gibbs. He can be contacted at:

Room 2.64
King George VI Building
Newcastle University
Queen Victoria Road
Newcastle upon Tyne
NE1 7RU
Telephone: 0191 222 6575
Email: Simon.gibbs@ncl.ac.uk



Carl Towler
Room 2.52A
King George VI Building
Newcastle University
Newcastle upon Tyne
NE1 7RU

0191 222 8456
carl.towler@newcastle.ac.uk

I have read and understood the attached information sheet. I give consent for this child to participate in this study, as described in the attached information sheet for carers.

I have been informed how the confidentiality of my child's information will be safeguarded during storage. I have been assured that my child's name will not be used in connection with this data outside of the school. I understand that video and audio recordings of the sessions will be made and agree that the arrangements for the safe storage of this data, as set out in the information sheet, are sufficient to safeguard this child's confidentiality.

I have not been coerced in any way to agree to this study. I am free to ask any questions and review my child's involvement at any time before and during the study. I understand that I may terminate my child's participation in the study at any point I wish. I have been made aware of the Newcastle University member of staff who is acting as supervisor for the research along with their contact details which are as follows:

Dr Simon Gibbs, Senior Lecturer in Education Psychology, Room 2.64 KGV
School of Education, King George VI Building, Newcastle University, Queen Victoria Road, Newcastle upon Tyne, NE1 7RU .Email: s.j.gibbs@ncl.ac.uk. Telephone: +44(0)191 222 6575

I have been provided with a separate copy of this form and the information sheet.

Name of student concerned.....

Name of carer (print).....

Signed

A4 Information sheet and consent form for students

Information sheet for students

The research tries to find ways to help students who sometimes don't enjoy reading by looking at how they talk about what they read.

Taking part means going to daily lessons that last around 45mins. You'll be together with around 20 other students and will be working in groups of six. Each lesson looks like this:

Reading (5mins)

Each person in your group will take it in turns to read part of a text.

Independent problem solving (15mins)

Working together, you will try to solve a problem relating to the text.

Response to text (20mins)

Together with the other in your group you will plan a 'retell' of the text.

Retell (5mins)

Your group will then perform a retell of the text.

Some tests will be needed to see what your reading is like before the programme starts. These are done individually and take about an hour to do. The results will help us to understand how you read when you are taking part in the sessions.

The lessons will be video and audio recorded so that we can look at how you and your group work. These recordings will be stored safely at the university and will only be seen by research staff or teachers at the school. Some of the recordings may be used in the lessons to share good work with the rest of the class. Your name will not be used when the research is written up and your face and uniform will be blocked out in any photos that are used.

Signing the consent form does not mean that you have to attend all the lessons. You can change your mind at any time and withdraw permission for any recordings or work you have done to be used in this research project.

The research is being carried out by Mr Carl Towler, who works as a researcher at Newcastle University. Carl is a qualified teacher with experience in teaching reading. His work is managed by a supervisor. His name is Dr Simon Gibbs and he can be contacted at the address below.

*Room 2.64, King George VI Building, Newcastle University, Queen Victoria Road,
Newcastle upon Tyne, NE1 7RU. Telephone: 0191 222 6575. Email:
Simon.gibbs@ncl.ac.uk*



Project supervisor: Dr Simon Gibbs

Room 2.64

King George VI Building

Newcastle University

Queen Victoria Road

Newcastle upon Tyne

NE1 7RU

Telephone: 0191 222 6575

Email: Simon.gibbs@ncl.ac.uk

I have read and understood the attached information sheet.

I agree to take part in the research that is described on the information sheet.

I agree to the video and audio recording of taught sessions. I am happy that the test results and session recordings made will be kept private and confidential. I am happy that my name will not be used outside of the school when talking or writing about this project.

I have not been forced by anyone to take part in this study. I am free to ask any questions at any time. I understand that I can stop taking part in the research at any time I wish. I also understand that I can withdraw permission for recordings to be used in the research even after the taught programme has finished.

I have been provided with a separate copy of this form and the information sheet.

Name of Student.....

Signed.....

Date.....

Appendix B Test data

The students' reading ability was tested in order to contextualise their observed behaviours in the classroom during prototyping. The aim was to create a record of their individual performance in a formal testing situation that could be compared and contrasted with their performance in a self-directed group task. It was anticipated that some of these individual attributes would survive this transition whilst others would be suppressed or supplanted by other social behaviours.

Teachers from the school administered two tests from the *York Assessment of Reading for Comprehension Secondary Test* (GL Assessment 2010). The Single Word Reading Test was used as the materials used in prototyping involved cards marked with key vocabulary. The Passage Reading test provided data on reading accuracy and error rates as well as standardised ages from comprehension of fiction and non-fiction texts. Texts were at two levels: Supplementary (those reading below age expectation) and Level One (those reading at age expectation).

B1 Word reading scores

Age		Word Reading				
		Raw score	Stand	95% CI	Percentile ranks	Age equiv.
Sue	11.11	40	86	36-44	Average	9.06
Fay	12.06	44	87	40-48	Average	10.06
Lily	12.00	40	83	36-44	Below av	9.06
Jim	12.06	31	<70	27-35	Severe diff	8.00
May	11.11	48	99	44-51	Average	11.09
Kim	12.02	50	101	47-54	Average	12.06
Ali	12.00	46	93	42-50	Average	11.00
Pete	11.08	47	97	43-50	Average	11.03
Karen	12.04	43	88	39-47	Average	10.03
John	11.07	42	89	38-46	Average	10.00
Eve	11.08	42	89	38-46	Average	10.00
Sam	12.02	46	93	42-50	Average	11.00
Roy	12.04	27	<70	23-31	Severe diff	7.06
Ned	12.04	47	95	43-50	Average	11.03
Jill	11.08	46	96	42-50	Average	11.00
Rob	12.02	45	91	41-49	Average	10.09
Betty	12.00	48	96	44-51	Average	11.09

B2 Narrative text reading rate and comprehension (Level 1 and Supplementary)

	Age	Missing handbag (Supp) /The Schoolboy (level 1)*							
		Raw scores		Ability scores		Standard		Age equiv	
		Rate (s)	Comp	Rate	Comp	Rate	Comp	Rate	Comp
Sue	11.11	72	5	82	33	105(av)	82	13.07	7.07
Fay	12.06	90	7	72	43	88 (av)	89(av)	9.11	9.08
Lily	12.00	90	9	78	52	97(av)	100(av)	11.10	12.00
Jim	12.06	70	5	82	33	103(av)	78	13.07	7.07
May*	11.11	113	3	90	38	117	87(av)	16.00	8.06
Kim	12.02	74	8	81	47	103(av)	95(av)	13.01	10.08
Ali	12.00	85	9	79	52	101(av)	100(av)	12.03	12.00
Pete*	11.08	130	5	87	46	112(av)	95(av)	16.00	10.05
Karen	12.04	71	9	81	52	103(av)	100(av)	13.01	12.00
John*	11.07	311	2	58	33	71	82	7.07	7.07
Eve	11.08	89	6	78	38	100av	87(av)	11.10	8.06
Sam	12.02	70	8	82	47	104(av)	95(av)	13.07	10.08
Roy	12.04	192	10	56	57	<70	105(av)	7.05	13.05
Ned *	12.04	428	3	39	38	<70	85(av)	<7.00	8.06
Jill	11.08	83	9	79	52	101(av)	101(av)	12.03	12.00
Rob*	12.02	208	7	75	55	94(av)	103(av)	10.09	12.10
Betty*	12.00	153	10	84	68	107(av)	116	14.08	16.00

B3 Non-fiction text reading rate and comprehension (Level 1 and Supplementary)

	Age	Bees (Supp)/ Honey for you*							
		Raw scores		Ability scores		Standard		Age equiv	
		Rate (s)	Comp	Rate	Comp	Rate	Comp	Rate	Comp
Sue	11.11	114	3	81	33	104(av)	82	13.01	7.07
Fay	12.06	110	8	82	56	103(av)	102(av)	13.07	13.02
Lily	12.00	160	8	77	56	97(av)	102(av)	11.05	13.02
Jim	12.06	156	5	77	42	97(av)	88(av)	11.05	9.05
May*	11.11	125	8	89	58	115(av)	108(av)	16.00	13.09
Kim	12.02	132	5	80	42	101(av)	90(av)	12.08	9.05
Ali	12.00	115	8	81	56	104(av)	102(av)	13.00	13.02
Pete*	11.08	117	2	90	31	117	80	16.00	7.02
Karen	12.04	133	8	80	56	101(av)	104(av)	12.08	13.02
John*	11.07	400	2	47	31	<70	80	<7.00	7.02
Eve		Absent during test period							
Sam	12.02	103	8	83	56	105(av)	104(av)	14.01	13.02
Roy	12.04	262	10	67	65	83	1139av)	8.09	15.11
Ned *	12.04	423	8	43	58	<70	108(av)	<7.00	13.09
Jill	11.08	120	4	81	38	104(av)	87(av)	13.01	8.06
Rob*	12.02	261	12	68	76	84	124	8.11	16.00
Betty*	12.00	134	10	87	67	111(av)	115	16.00	16.00

B4 Example of passage reading, comprehension and summary- Roy

B4.1 The Level 1 non-fiction text 'Bees'

Does the sight of a bumble bee fill you with dread? It shouldn't: although larger, it is less aggressive than the honey bee and will only attack if threatened. Also, unlike honey bees, bumble bees never form an angry swarm because their nests are small.

After winter hibernation the queen bee constructs a nest in an old mouse hole or leaf litter or, sometimes, under a shed or large stone. Subsequently, she lays the eggs from which female worker bees develop. While the worker bees collect nectar, the queen continues egg laying. From those eggs laid in late summer, male drones and queen bees develop – the drones' sole purpose in life being to mate with the young queens, thus ensuring the survival of the species.

Come the first frosts, the old queen, worker bees and drones die, leaving the young queens to hibernate and await the warmth of spring.

We rely on the bumble bee to pollinate our plants, but with buildings replacing their habitats and pesticides poisoning their food source, man is the greatest threat to their species.

B4.2 Transcript of passage reading (total time 262 seconds)

(Words in red are key words used in the comprehension test. In brackets are pauses measured in seconds)

- Roy Does the (0.5) scent of bees (0.2) **bumble bees** feel you (0.5) w-with (2.0) de- dread.(0.2) It. Shouldn't (0.5) annoy la-dry? (0.5) largely(0.2) it is less ang-ry than the (0.2) h-honey bee (0.5) and will al-ways attack (3.0) if (2.0) f-fentry (1.0) also. Unlike honey bees bumble bees (2.0) never (3.0) form an angry **swarm** (1.0) because they nest [*sneezes*]. Sorry. A small (0.2) after the w-winter (0.2) h-humbards- humbirds? (0.5) I don't get that word. It's hard.
- Teacher Hibernation
- Roy Hibernation. The queen bee cons-:tructs (1.0) a nest in a old (1.0) mouse hole (0.5) or leaf- (1.0). Little or sometimes (0.5) under a shed (0.2) or large stones. (1.0) Surprise-ed. (1.0) I don't get that one there. The one that's underline d. Sup- rise- gret. (1.0).
- Teacher Subsequently
- Roy Sumbsequently she lay her (0.2) the eggs (1.0) from (0.5) which (0.5) female workers. Bees belee (1.0) dreloss (0.1) white the worker bees collect. (3.0). **Nectar** (1.0). The queen (0.5) continues the egg lay- ing (0.5) from those **eggs laid** in later summer males (0.2) d-dose the and queens. (1.0) Bees b- (0.5) dee:lop. (0.5). The (0.5) drones so (0.2) p-purple (0.2) purpose? in life b-being to m-mate (0.5) with a younger queens (1.0). Those (0.2) esh- Asians? The s-se:r-val of the s(0.2) surprising. Come the first f (0.5) forst (1.0) the old queen wor:ker bees (0.5) and buzzes (0.2) **die** (1.0) living (0.5) the l- young (0.2) queens to hi-ber-nate and all wait the warmth of s-spring. (1.0) **We** really (0.2) aren't a **bumble bee** (0.5) to p-pollinate our plants but (1.0) with build (0.2) building (0.2) relaxing? (1.0) their **habitat** and their (0.2) and pre-predators poi:ising their food sources man (1.0) if (1.0) is the greatest **threat** (0.2) to their (0.2) spices (0.2). species?

B4.3 Transcript of comprehension test

(Words in red correspond to elements of comprehension questions that correspond to key words in the text)

- Teacher In what way are bumble bees different to honey bees?
(0.2)
- Roy Reading from the text] The-They don't form (0.2)angry swarms. (3.0) Bumble bees never form an angry swarm.
- Teacher Why do bumble bees never **swarm**?
(5.0)
- Roy To (3.0). [Reading from the text]. The nests are small.
- Teacher Name one type of **bumble bee**.
(1.0)
- Roy The honey bee. Queen bee. (1.0) The queen.
- Teacher What type of bee develops from the first **eggs laid**?
(2.0)
- Roy [Reading from the text] Queen. (24.0) [Reading from the text] The egg laying (1.0). Is it a male? (6.0)
[Reading from the text] In later summers males. (38.0) [Reading from the text] A female worker bee.
- Teacher In paragraph two what does subsequently mean?
(21.0)
- Roy Is it [Reading from the text] (3.0) I don't know. It's hard
- Teacher Why is the **nectar** collected by the worker bees?
(2.0)
- Roy Because if (3.0) because (0.5) the queen bee can't because she is laying the eggs.
- Teacher When do the worker bees **die**?
(22.0)
- Roy Reading from the text] Come the first (0.5) first the old queen workers bees and the bones (0.5) die.
- Teacher Why do **we** need **bumble bees**?
(2.0)
- Roy To (0.5) take the n-nectar to (0.2) off the plants. (3.0) [Reading from the text] P-pollinate our p-planets.
- Teacher What is the greatest **threat** to bumble bees?
(16.0)
- Roy [Reading from the text] Their f-food s-sources? (1.0) Man?
- Teacher How are people affecting bumble bees?
- Roy Cos when you see them you might hit them. (0.5) because they kill flowers so they can't get the nectar
(13.0)
- Teacher Can you tell me more about it?
(6.0)
- Roy Sometimes people get (0.5) People like to jobs like (1.0) because they find (0.5) a hole (0.5) They find bees coming out of it and some people get them sprayed till the bees die.

Teacher In paragraph four what does '**habitats**' mean?

Roy It's where they live and (3.0). Is it where they live and that (0.2) part (0.5) of the area?

Teacher What's meant by '**threat to their species**'?

(1.0)

Roy People could be killing them and then (8.0) If someone kills like five of them they could be losing the-
(0.5) their family.

Teacher What do you think will happen if bumble bees die out?

(7.0)

Roy There will be no honey?

B4.4 Summary of passage given by student

Teacher Can you give me a short summary of this passage making clear what the main points are?

Roy Erm

(3.0)

Roy I've forgotten. (1.0). The bumble bees.

(6.0)

Roy I've forgotten.

(9.0)

Roy I think I forgot.

Teacher OK. That's fine.

B5 Examples of running records

B5.1 Running record (Bees): Kim (Group A)

Time taken: 132 seconds Errors: 15/179 Error rate: 1: 12 Self corrections: 1

Comments: The reading is stop start. Words are slurred together and then there are pauses that are treated as full stops (e.g. after 'unlike honey bees'). Kim has good word attack skills and solves or makes good attempts at challenging words (*aggressive, hibernation, subsequently*). These are approached using visual cues – her attempts show awareness of common word endings (*herbinisation*) and can segment words into syllables (*nec-tar*). The re run at 'We rely' shows some monitoring of syntax but this is rare. Most of the errors are omissions (marked 'o') or insertions (marked with an arrow) of small high frequency words suggesting that words at this level are not seen as important in terms of reading accuracy. This may explain the very low rate of self correction- even if these errors had been noticed, fixing them is not a priority. Taken together, the record suggests someone who sees reading as a process of solving hard words and not an activity that centres on meaning or sense.

Does the sight of (a) bumble bee fill you with dread? It shouldn't: although larger, it is less aggressive than (the) honey bee (and) will only attack if threatened. Also, unlike honey bees, bumble bees never form an angry swarm because their nests are small.

After winter hibernation the queen bee constructs a nest in an old mouse hole or leaf litter or, sometimes, under a shed or large stone. Subsequently, she lays the eggs from which female worker bees develop. While the worker bees collect nectar, the queen continues egg laying. From those eggs laid in late summer, male drones and queen bees develop – the drones' sole purpose in life being to mate with the young queens, thus ensuring the survival of the species.

Come the first frosts, the old queen, worker bees and drones die, leaving the young queens to hibernate and await the warmth of spring.

They rely on the bumble bee to pollinate our plants, but with buildings replacing their habitats and pesticides poisoning their food source, man is the greatest threat to their species.

B5.2 Running record (Missing bag): Kim (Group A)

Time taken: 74 seconds **Errors:** 6/155 **Error rate:** 1:26 **Self correction:** 2

Comments: Again the reading is very rushed and several small high frequency words are omitted. Other errors, such as the substitution of *reed* for *read* again suggest that Kim does not monitor the sense of what she is reading but reserves attention for larger challenging words, here *volun-teered* and *scarl-et*. The re-run at 'found it (at) the beach toilets' is a rare example of a self-correction (sc). This was probably triggered by a visual inspection of the text, as Kim's insertion of 'at' for 'in' makes sense grammatically. Again, the impression is of someone who relies almost exclusively on visual cues at word level (e.g. *much/which*) rather than grammatical sense to guide her efforts.

It was the first day of Ryan's family holiday. They were staying in a cottage which overlooked the harbour in Peele Bay. It was a glorious sunny day, so the family had wandered down to the beach. Dad ^{volun-teer} volunteered to look after their bags. Mum explored the beach, then joined Ryan and his sister in the foaming waves. Dad relaxed and ^{read} read his magazine. When mum had had enough of the water, she returned to sit with dad. He had fallen asleep and was ^{with sc} scarlet. She glanced around and realised her handbag was missing. It must have been stolen. Mum was furious with dad.

Everyone hurried to the police station. ^{Much/which} Much to their surprise it had already been handed in and nothing was missing. The policeman said an old lady had found it in the beach toilets. Then mum remembered; she had left it ⁱⁿ there. Mum apologised to dad and bought him a huge ice-cream.

B5.3 Running record (Bees): Betty (Group A)

Time taken: 134 seconds Errors: 11/179 Error rate: 1:16 Self corrections: 0

Comments: The reading starts fluently but this breaks down with the re run of 'although larger' which she had read correctly but wanted to confirm. Betty has good word attack skills and uses decomposition to break down and solve 'subsequently' and also makes a sophisticated attempt at 'replacing' with 'replicating'. Betty's errors tend to centre on the misreading of simple high frequency words- in the first paragraph *a-the; it- and; anger- angry*. These continue, with the result that the fluency and expression in Betty's reading never really recovers. The pause marked by the hyphen in the middle of 'queen bees develop- the drones sole purpose' is omitted leading to a lengthy pause before 'purpose' is solved and the reading resumes. Some errors show that Betty is attending to the meaning and theme of what she is reading- e.g. the insertion of *bee* on line 8 and substitution of *begin* for *being* on line 9 which describes what happens after the eggs hatch. There is little evidence that Betty prioritises the monitoring and repair of breakdown in grammatical sense.

Does the sight of a bumble bee fill you with dread? It shouldn't: although larger, it is less aggressive than ^athe honey bee and will only attack if threatened. Also, unlike honey bees, bumble bees never form an angry swarm because their nests are small.

After winter hibernation the queen bee constructs a nest in an old mouse hole or leaf litter or, sometimes, under a shed or large stone. ^{something}Subsequently, she lays the eggs from which female worker bees develop. While the worker bees collect nectar, the queen ^{bee}continues egg laying. From those eggs laid in late summer, male drones and queen bees develop – the drones' sole purpose in life ^{begin}being to mate with the young queens, thus ensuring the survival of the species.

^{to}Come the first frosts, the old queen, worker bees and drones die, leaving the young queens to hibernate and await the warmth of spring.

We rely on the bumble bee to pollinate our plants, but with buildings ^{replicating}replacing their ^{pers / pers. side}habitats and pesticides poisoning their food source, man is the greatest threat to their species.

B5.4 Running record (Bees): Lily (Group B)

Time taken: 160 seconds Errors: 9/179 Error rate: 1:20 Self corrections: 4

Comments: The reading of this text is less fluent than with the narrative text because of the number of repairs, checks and self-corrections that Lily carries out. In the first paragraph, *larger* is read correctly but repeated (R) so as to confirm this. The substitutions *is- it* and *will- and* are detected and repaired. When Lily substitutes *swarn* for *swarm* she comments 'No. It's *swarm*' and carries on. This is a reader with skills that are not yet fluent, but who works very hard to monitor and maintain the accuracy of what she reads. This is reflected in her comparatively high rate of self-correction. However, this means that sections of the text are read one word at a time using 'voice pointing', with the result that meaning becomes harder to follow. For example, this is possibly why she misses the full stop in line 7.

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After winter hibernation the queen bee constructs a nest in an old mouse hole or leaf litter or, sometimes, under a shed or large stone. Subsequently, she lays the eggs from which female worker bees develop. While the worker bees collect nectar, the queen continues egg laying. From those eggs laid in late summer, male drones and queen bees develop - the drones' sole purpose in life being to mate with the young queens, thus ensuring the survival of the species.

Come the first frosts, the old queen, worker bees and drones die, leaving the young queens to hibernate and await the warmth of spring.

We rely on the bumble bee to pollinate our plants, but with buildings replacing their habitats and pesticides poisoning their food source, man is the greatest threat to their species.

B5.5 Running record (Missing handbag): Lily (Group B)

Time taken: 90 seconds Errors: 3/155 Error rate: 1:52 Self corrections: 0

Comments: The reading is slow and careful but there is good phrasing and expression. Lily reads the punctuation, pausing at commas and full stops. Although she misses a full stop on line 10 this does not affect fluency or expression noticeably. Her attempts at more challenging words shows a skill in using visual information as a strategy- *voluntered- volunteered; glenced- glanced*. The re run of line 5 suggests that Lily prioritises sense and is prepared to repair any breakdowns before continuing with the passage.

It was the first day of Ryan's family holiday. They were staying in a cottage which overlooked the harbour in ^{Pe-} Peele Bay. It was a glorious sunny day, so the family had wandered down to the beach. Dad ^{voluntered} volunteered to look after their bags. Mum explored the beach, then joined Ryan and his sister in the foaming waves. Dad relaxed and read his magazine. When mum had had enough of the water, she returned to sit with dad. He had fallen asleep and was ^{Scarlet} scarlet. She ^{glenced} glanced around and realised her handbag was missing. It must have been stolen. Mum was furious with dad.

Everyone hurried to the police station. Much to their surprise it had already been handed in and nothing was missing. The policeman said an old lady had found it in the beach toilets. Then mum remembered; she had left it there. Mum apologised to dad and bought him a huge ice-cream.

B5.6 Running record (Missing bag): Eve (Group B)

Time taken: 89 seconds Errors: 10/155 Error rate: 1:15 Self corrections: 2

Comments: The reading is well paced, with good expression and attention paid to punctuation. Eve's errors show that attention is paid to visual cues and the often make grammatical sense (e.g. *family's- family, the- their, with Scarlet [name]-was scarlet [colour]*). Her self corrections on lines 7 and 11 show a an ability to recognise errors based on visual information (I-It) or grammatical sense (a-the) and repair them.

It was the first day of Ryan's ^{family's} family holiday. They were staying in a cottage which overlooked the harbour in ^{Peele} Peele Bay. It was a glorious sunny day, so the family had wandered down to the beach. Dad volunteered to look after ^{the} their bags. Mum explored the beach, then joined Ryan and his sister in the foaming waves. Dad relaxed and ^{read} read his magazine. When mum had had enough of the water, she returned to sit with dad. He had fallen asleep ^{with} and was scarlet. She glanced around and realised her handbag was missing. ^{It's} It must have been stolen. Mum was furious with dad.

Everyone hurried to the police station. Much to their surprise it had already been ^{hand} handed in and nothing was missing. The policeman said an old lady had found it in the beach ^{toilet} toilets. Then mum remembered; she had left it there. Mum apologised to dad and bought him a huge ice-cream.

B5.7 Running record (Bees): Sue (Group B)

Time taken: 114 seconds Errors: 20/179 Error rate: 1:9 Self corrections: 3

Comments: Sue initially reads quickly, pausing to solve challenging words such as *aggressive*, *although*, *subsequently* and *hibernation*. Some errors made serve to sustain the grammatical sense of what is read, e.g. *bees- bee* (line 1); *these-those* (line 8); *living- life* (line 9) and some self corrections show attention paid to grammatical sense, e.g. *of-or* (line 6); *last-late* (line 8); *your- young* (line 10). Sue works hard to maintain the accuracy of what she reads on line 10, with the result that any fluency or expression has gone by the time she reaches line 11 which is read laboriously, one word at a time. This means that sense and meaning is now harder for Sue to monitor, as suggested by the errors on line 13 (nearly-rely; and-our). This is a reader that prioritises visual cues, especially letter strings (*you- your*) and consonants in the middle of words and word endings (*several- surviv*). In other words, her primary strategy seems to be one of parsimony- reading words based on what their outline looks like and then paying attention to word details when grammatical sense breaks down. Sense is the fall back option rather than the main source of information.

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After winter hibernation the queen bee constructs a nest in an old mouse hole or leaf litter or, sometimes, under a shed or large stone. Subsequently, she lays the eggs from which female worker bees develop. While the worker bees collect nectar, the queen continues egg laying. From those eggs laid in late summer, male drones and queen bees develop - the drones' sole purpose in life being to mate with the young queens, thus ensuring the survival of the species.

Come the first frosts, the old queen, worker bees and drones die, leaving the young queens to hibernate and await the warmth of spring.

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B5.8 Running record (Missing handbag): Roy (Group C)

Time taken: 192 seconds Errors: 24/155 Error rate: 1:6.5 Self corrections: 4

Comments: Each word is read separately which may explain why visually consistent attempts that breach sense (e.g. *cotton* for *cottage*/ *formula* for *foaming*/ *reading* for *read*/ *relate* for *realised*/ *heard* for *hurried*/ *Audrey* for *already*) are not noticed or repaired. The one example of such a self-correction is *handled* for *handed* in line 10. This might be because of collocation- Roy knows that *handed* goes with *in* to make the phrase *handed in*. This is not the case with the other errors. Despite segmenting '*volunteered*' Roy is unable to blend these segments together or to deduce the word from context. He pauses for some time at '*had had*' probably to confirm that the word '*had*' is indeed repeated twice, but doesn't read it again to check that this sounds right. At times Roy forces the text to fit what he thinks it should say in order to sustain grammatical sense. So, for example, '*Mum apologised to dad and both of them hugged. A huge ice cream.*' '*Huge*' is probably self-corrected because Roy can't make '*ice cream*' fit into his reading of the text.

It was the first day of Ryan's family holiday. They were staying in a cottage which overlooked the harbour in Peele Bay. It was a glorious sunny day, so the family had wandered down to the beach. Dad volunteered to look after their bags. Mum explored the beach, then joined Ryan and his sister in the foaming waves. Dad relaxed and read his magazine. When mum had had enough of the water, she returned to sit with dad. He had fallen asleep and was scarlet. She glanced around and realised her handbag was missing. It must have been stolen. Mum was furious with dad.

Everyone hurried to the police station. Much to their surprise it had already been handed in and nothing was missing. The policeman said an old lady had found it in the beach toilets. Then mum remembered; she had left it there. Mum apologised to dad and bought him a huge ice-cream.

B5.9 Running record (Bees): Jim (Group D)

Time taken: 156 seconds **Errors:** 6/179 **Error rate:** 1:30 **Self corrections:** 3

Comments: Jim's reading is slow and careful, with the text read one word at a time. Jim inserts a full stop at the end of the first line and omits the full stop on the second line after 'threatened' suggesting that he is taking little account of grammatical sense at this point. His self-correction of *hibernating*-*hibernation* may have been due to a detected breakdown in grammar, but *hibernating* is syntactically plausible here, suggesting Jim was attending to the word ending -*tion* when making this repair. His skill in applying visual information is used to good effect to solve *subsequently*, *habitat* and *pesticides*. This is encouraged by the teacher who conducted the test. When after a long pause Jim solves pesticides she offers praise- *Good lad!* Several errors suggest a heavy reliance on visual cues when reading, including *bubble-bumble*; *those- thus*; *walker- worker*, with sense used as a secondary means of detecting and correcting errors. However, there is a cost to this. On the surface the record of the second paragraph looks fluent by the comparison but this was not the case. Punctuation is missed on lines 8 and 10 reflecting the fact that the passage is read like a list of words rather than an information text about bees. The effect is that word by word accuracy is gained at the expense of expression and meaning with the result that most errors go undetected.

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Come the first frosts, the old queen, worker bees and drones die, leaving the young queens to hibernate and await the warmth of spring.

We rely on the bumble bee to pollinate our plants, but with buildings replacing their habitats and pesticides poisoning their food source, man is the greatest threat to their species.

Appendix C Design iterations

C1 Use of copyrighted material

The materials designed for use in the prototyping study are based on works by established authors of fiction for children. The texts used in the study are not verbatim copies taken from these works but are adapted from the original for the purposes of instruction. Even if verbatim sections of these works had been reproduced (as is the case with the YARC test materials) this would fall under the rules for 'fair dealing' as set out in the Copyright Designs and Patents Act 1988 (UK Parliament 1988). These state that limited proportions of a work can be used for instruction or research without infringing copyright if:

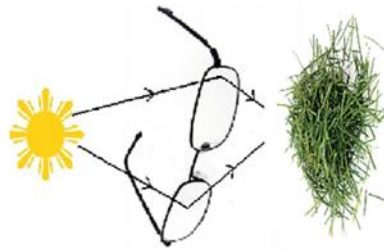
- The copying is done by the student or the person giving instruction.
- The source of the material is acknowledged.
- The instruction is for a non-commercial purpose.

Andy's Adventure



Andy's car had crashed in the snow. By a miracle he was still alive, but knew that to go on he needed fire. Luckily he was wearing his glasses and had a small axe in the boot. Today they would save his life.

He used the axe to cut up some wood and soon had enough to last for hours. But Andy was going to find fire making harder than he thought. First, he gathered some grass. Next he used his glasses to focus the weak winter sun onto it.



But nothing happened. The grass was too wet to catch fire. Andy checked his pockets. He found something that might work better- a crisp ten dollar note. He tore the smooth paper into small bits and made them into a pile.

Again he tried, but no luck.

The paper was too thick! Over to his right was a small clump of trees. The trunks were covered in feathery shreds of bark. After an hour of peeling he had enough strips of white bark to try again.

Once more he used his glasses to focus the sunlight. Despite all the setbacks, Andy held his breath. Unlike before, there was soon a red glow and some smoke. But still, there was no fire. What was he missing? To make a fire you need air.



Hastily he got the bark ready again and, he sparks appeared, he blew. Andy watched the glow spread as he breathed out. Suddenly the bark caught fire. The small flames snapped and cracked. He felt the heat of the fire on his face.

C2 Initial feasibility materials

C2.1 Initial feasibility study- narrative text based on Hatchet (Paulsen 1996)

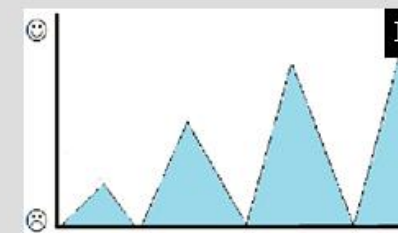
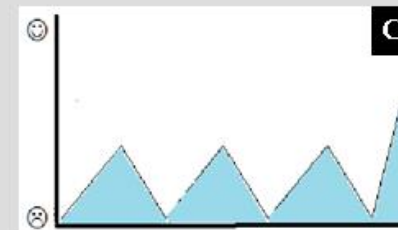
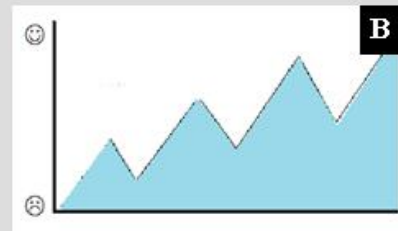
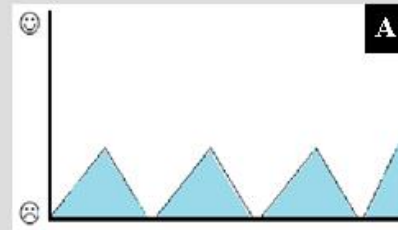


C2.2 Initial feasibility study- Student response sheet

How do you feel about doing tasks like this?

-10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7 8 9 10

Who is Andy?



Which photo and graph did you pick?

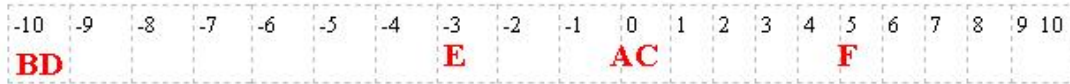
Photo

Graph

C2.3 Initial feasibility study (Group B student responses)

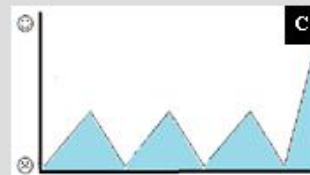
Group B

How do you feel about doing tasks like this?

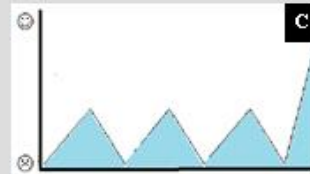


Who is Andy?

Child
A



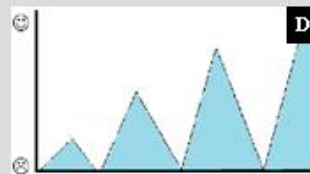
Child
B



Child
C



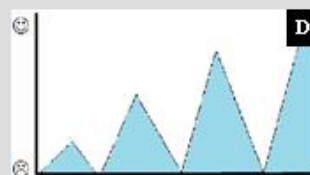
Child
D



Child
E



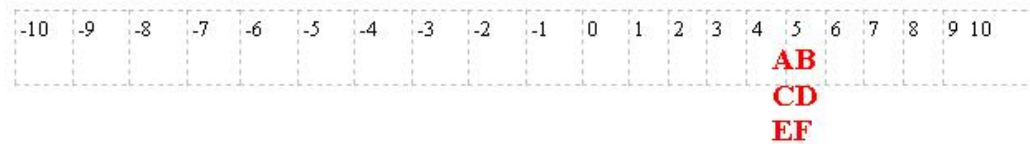
Child
F



C2.4 Initial feasibility study (Group C student responses)

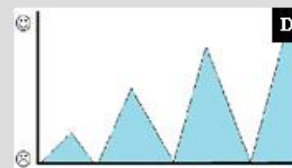
Group C

How do you feel about doing tasks like this?

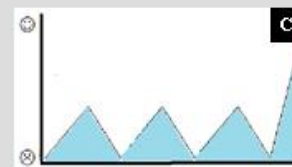


Who is Andy?

Child
A



Child
B



Child
C



Child
D



Child
E



Child
F



C2.4 Initial feasibility study (Key to coding of transcripts)

Level of conceptual reasoning		
	Statement	A response is presented without basis or accompanied by a curtailed explanation.
	Complex	The solution is picked because it matches a discrete fact appearing in the text. (E.g. firemen carry axes; Andy was happy at the end of the story)
	Synthetic prototype	A theory is offered but is not fitted to a specific part of the story.
	Genuine prototype	The theory is fitted to a part of the story but is inconsistent with other parts of the narrative.
	Synthetic concept	The theory is fitted to a part of the story but is not extended to explain other parts of the story.
	Genuine concept	A theory is developed that comprehensively explains how ideas across the text interrelate.

Social function		
A	Affirmation	Agreeing with another's interpretation.
P	Prompting	Providing information to help another's reasoning
C	Challenge	Disagreeing with another's interpretation.
Q	Question	Asking for information or an opinion from others.
R	Reasoning	Offering an explanation or justifying a point of view.
H	Humour	Breaking the tacit rules of the task to make a joke.
F	Friction	Personality clashes not directly related to the task
M	Management	Commenting on the group's approach to the task. Housekeeping.
T	Teacher	Intervention or advice from teacher/researcher.

Attention paid to materials	
-----	Students look at pictures of character types.
-----	Students look at fortune lines.

C2.5 Initial feasibility study (Overview of coded transcripts)

Group B

T		A	H	R	H	R	H	H	C	F	T	M		M	H	M	F	M	F		

M	F		M	F	M	M	M	F		A	R		T		C		C	C	R	R	

A	C	C	A	R	A		A		R		R			C	A	Q	R	Q	R	H	A

C	H	C	C		H	H	R	H	H	H	T		H	H	H	T		C	H		

H	A	M		M		H	H	H	H	C	H	A	H	T	M			H	C		

H	M	A	H	A	A	C	C	H	A	P	P	P	P	P	H	A	C		H		

H	H		H	H	H	T															

Group C

R	A	R		R	R	A						R	R				A		
	R	C	R	R	C	C	A	A		R	H	C	Q	R		R	R	A	
A	R	R	A	A	R	Q		H						R	Q	R	Q		
	Q		Q		Q		Q		M	C	C	C	A	C	A	C	C	C	R
R	R	A	C	Q	P	M		R	Q		Q								
	C	C	C	A	C	A	R	C	Q	C							Q		M

C2.6 Initial feasibility study (Transcript Group B)

- T What I want you to do is as a group I want you to decide which character you are going to put forward and which graph. It's twenty five to twelve so this is really dependent on how quickly you do it.
- 1 F I reckon it should (...) it could have been a soldier.
- 2 E It could have been [like (A)]
- 3 B [Look, the scientist has got a gun (H)]
- 4 E Cos it could have bin that he got lost and he (...) he's trying to find the rest of his friends. (R)
- 5 B (Whisper- the scientist has got a gun) (H)
- 6 E And if it's graph D then it keeps getting higher and lower and then high and then low and then really high at the end. That may be when he finds his friends and he saves himself. (R)
- 7 B (*The scientist has got a gun*) (H)
- 8 B (*The scientist has got a gun*) (H)
- 9 C No it's a test tube. (C)
- 10 E [*Name of student*]! No one cares! (F)
(3.0)
- 11 T It's got to be everyone's decision. The reason the papers are numbered is that I'll be picking someone at random to give me the decisions of the group. So I might pick number 5 or number 2-
- 12 C Mine isn't numbered (M)
- 13 A I think it's the fireman.
- 14 D Top! (M)
- 15 B Sir I was (...) I was I've been kind of decorating and I've kind of covered it. (H)
- 16 C Mine says omine A (M)
- 17 E That's just stupid [*Name of student*]! Do you know how stupid-(F)
- 18 A 5A (M)
- 19 E Do you know how stupid ye are? (F)
- 20 D Mine's 5 - mine's 5B (M)
- 21 B You're not the brightest smarty in the bunch (F)
- 22 (?)
- 23 F Mine (2.0) Mine might be (1.0) six (M)
- 24 E [*Name of student*] (F)
- 25 B No mine's six (M)
- 26 C I've got one (M)
- 27 E But look at all- are we supposed to be doing that-deciding who it is? (M)
- 28 B Cos you're stupid (0.5) Oh (F)
(2.0)

- 29 B I reckon it's the fireman.
- 30 A Yeah (A)
- 31 B Cos he's got an axe (R)
- 32 F Heh heh
- 33 T Try and do that. Try and decide first if you can agree between you on the character. Who else [has got eh fireman then?
- 34 F [Definitely the clown]
- 35 D What? (C)
- 36 C But the thing is no fireman (...) He would know=
- 37 E =He would know how to start- he would know how to start a fire with the glass. (C)
- 38 D Why's the fireman got an axe? (C)
- 39 C He would (...) If he was a fireman he would know like you know [the dollar that it would be too thick to set on fire (R)
- 40 D [he would know (...) he would know how to start a fire if he was a fireman (R)
- 41 C Mmm (A)
- 42 B Fire- firemen put out fires though. He doesn't know how to start a fire. (C)
- 43 E But then you need to know how to start a fire it to put it out. (C)
- 44 C Uh huh (A)
- 45 E To know what caused it. (R)
- 46 D I know (A)
- 47 F I would have said that it's the soldier.
(1.0)
- 48 E Same as- (A)
- 49 F (2.0) Cos like (1.0) soldier like
- 50 E Cos they won't have much knowledge but they will have some knowledge. (R)
- 51 F Aye, because a scientist (...) like (0.5) or like
- 52 E They would know as well (R)
- 53 C It wouldn't be a scientist either
- 54 A It could have been a scientist
- 55 D Why would a scientist?- (C)
- 56 C -I know, because he'd know. (A)
- 57 A Hang on. What were you going to say about it wouldn't be a scientist? (Q)
- 58 D The scientist would know as well (R)

- 59 C He would know the same things as the fireman? (Q)
- 60 A The scientist would go (...) could be (...) The scientist could be going on like a jou- Like a (1.0) like tourist (.) he could be like a tourist scientist and he could be going to like find stuff (.) so he could be a scientist that's lost track. (R)
- 61 C It could be a wrestler. [He could be carrying an axe. (H)
- 62 D [Yeah it could be (A)
- 63 E Why would a wrestler carry an axe? (C)
- 64 C To kill someone. (H)
- 65 F Yeah, but if it was a scientist wouldn't a scientist already know how to start a fire? (C)
- 66 C It would be the same with the fireman (C)
- 67 D It could have just been=
- 68 E =It could have been a fireman clown (H)
- 69 F It might just be a clown= (H)
- 70 E A soldier knows [(0.5) how to light a fire. (R)
- 71 F [Yeah. With a plastic axe. But then how would a clown know (0.8) Ooh. (H)
- 72 B Heh heh (H)
- 73 F It might have been a clown carrying a hat- erm (0.5) Thank you (0.4) What's it called? (H)
- 74 T It's a hand axe.
- 75 F A axe. Yeah
- 76 B He's going on to murder someone. (H)
- 77 F No but. Yeah but he might be one of those scary clowns. You know like the movies yeah. It will be, like, stupid. (H)
- 78 B Why has it got a picture of the soldier's legs? (H)
- 79 T I couldn't fit all the picture in. Apart from the clown. I included just enough to give you a clue who the person is, that's all.
- 80 C It could have been an astronaut
- 81 D Why would an astronaut-(C)
- 82 C -He was driving on the moon and he broke down (H)
- 83 E He needs to start a fire (H)
- 84 C It could be (A)
- (3.0)
- 85 A It could be any of them. Watch it turn out to be the clown or something. (M)
- 86 F It could be a soldier
- 87 E It could be all them. Like a clown has an entertaining job. (M)

- 88 D Well it can't really be an astronaut
- 89 C He's dreaming to be an astronaut, he's training to be a fire fireman and he does wrestling in his spare time and he was a scientist. (H)
- 90 E And he (...) he used to be a soldier (...) He used to be a scientist soldier in the war. (H)
- 91 C But now he's a soldier (H)
- 92 B And he's got a beaky nose (H)
- 93 A Why would a clown turn into a soldier? (C)
- 94 E No (...) he just does that for entertainment. (H)
- 95 C Clowns can be soldiers (A)
- 96 B A proper red nosed one! (H)
- 97 T You have to think of a story that makes sense to you. You can pick any one.
- 98 E Do we have to write the story down? (M)
- 99 D It could have been -
- 100 A -O::h no. I can't write.
- 101 D I reckon it's the wrestler because he could have been coming home from work (H)
- 102 E Why would have an axe? (C)
- 103 D Yes because he might have an axe because he might travel to work with people who are like- (H)
- 104 F Everyone just keeps on (M)
- 105 A I knaa, he might be one of them [?] people (A)
- 106 C He's a wrestler who chops down trees in his spare time (H)
- 107 D Exactly (A)
- 108 C Uh Huh (A)
- 109 A Or he could like be (C)
- 110 E It could be any of them that chops trees down in their spare time. It could be a clown who chops trees. (C)
- 111 D It looks like he's holding wood when he's in that picture. (H)
- 112 A I know. Cos you don't see the end of that wood thing. (A)
- 113 C It could be an axe (P)
- 114 B That could be barbed wire= (P)
- 115 F =It could be a baseball bat. (P)
- 116 C It looks like a belt. (P)
- 117 E It looks like a cricket bat to be honest. (P)
- 118 D He uses it to hit people with when he's wrestling (H)
- 119 C I know! (A)

120 A He could be a woodman (C)
 121 C But you know when you
 122 A A woodman A barber (..) a [??] (H)
 123 B Heh heh (H)
 124 A A barber (H)
 125 B You know when you
 126 E The only way to hit someone is with TLC (..) tables ladders and chairs. (H)
 127 F Heh heh (H)
 128 E That's tender loving care. (H)
 129 T You are concentrating on the pictures. What about the graphs? What have you picked?
 130 E Oh, erm D
 131 F I picked D
 132 D D as well
 (1.0)
 133 C B

C2.7 Initial feasibility study (transcript for Group C)

- T I'm going to give you five minutes. As a group you have to decide which of the characters you are going to have as your guess and which of the graphs you want to have as well. So you have about 5 minutes.
- 1 D I would think it's the fireman because in the story it said that he had an axe with him. (R)
- 2 C Aye (A)
- (1.0)
- 3 F Aye an I've got a soldier though cos he's got to know what we have-like have fire and that. (R)
- 4 D I've got fire[man
- 5 C [Aye, I've got fireman knows how to do it as well (R)
- 6 E I think scientist because of the experiments and that (?) (R)
- 7 B Same. (A)
- 8 D Er
- 9 A I think soldier
- 10 E I think scientist
- 11 C I think fireman me
- 12 D At least none of us think that it's a wrestler or a clown.
- (0.8)
- 13 E Just doing loads of experiments to make fire. (R)
- 14 B [Reading from the text] He knew that to go on he needed fire. He could be a scientist. (R)
- 15 C And loads of-
- 16 B He could be a scientist
- 17 C And loads of
- 18 E Aye (A)
- 19 C And loads of
- 20 B [And loads of scien-]
- 21 C [Aye I know but I'm like [name of student] thinking it's a fireman because if you're in the army and being a soldier you're in there like (0.5) you're in there for like [and you don't come out in a car. (R)
- 22 E [You wouldn't carry an axe with you in the army. And you don't wear glasses either like scientists. (C)
- 23 C And fireman's got a axe and know how to make fire and that. (R)
- 24 E Yes and some scientists wear glasses. (R)
- 25 D I knaa but then so do [firemen (C)
- 26 B [Reading] He used his glasses to focus the winter sun onto it. See. How could a fireman know that? (C)
- 27 E Exactly (A)
- 28 C A fireman would [know that (A)
- 29 D [A fireman-
- 30 E Scientists [could though. Scientists need to know the experiments for fire and that (R)
- 31 C Firemen need to know that. It could have been a specky one. Heh heh. (H)

- 32 D I knaa but firemens like (0.1) could like (0.5) Fire (0.1) Firemen (0.1) People should like know about fires and all that. (C)
(1.0)
- 33 D What graph do you think it is? (Q)
- 34 E A, because everything has worked out for him (R)
- 35 B I think A as well because it's the scientist-
- 36 D I think B because it gans happy sad, happy sad, happy sad and then really ha- happy
- 37 B No. He goes (?) he goes sad [Happy sad then when he finds (R)
- 38 D [Cos when he crashes his car he'd be sad. (R)
- 39 B NO (2.0) yeah (A)
- 40 E Right (A)
- 41 D It could be D cos if he crashes his car then he'll be more like sad (R)
- 42 C And then when at the end he'd have been happier (R)
- 43 D Aye (A)
- 44 C Aye (A)
- 45 B It could have been C cos when he(0.5) got out of the car he got out and then he finds [(?)] (R)
(5.0)
- 46 D Who pu- who thought it was (.) like he could have been a clown? (Q)
(1.0)
- 47 F [Name of student]
- 48 C Heh Heh (H)
- 49 B I think it's scientist
- 50 D I think it's fireman
- 51 E Sci[entist]
- 52 C [I think fireman
- 53 B Scientist-
- 54 D Cos you wouldn't go round just having an axe with [would yer? (R)
- 55 F [Name of student] what do you think? (Q)
- 56 B Scientist. Soldiers don't use axes. (R)
- 57 F What do you think [Name of student]? (Q)
- 58 A Fireman
- 59 F What do you think [Name of student]? (Q)
- 60 C Fireman
- 61 F What do you think [Name of student]? (Q)
- 62 E Scientist
- 63 F What do I think [Name of student]? (Q)

- 64 C Fireman.
- 65 F What do you think [*Name of student*]? (Q)
- 66 D Fireman
- 67 F Fireman wins then (M)
- 68 B No but why does the fireman want to be (0.4) carrying a axe in his boot? (C)
(2.0)
- 69 C Because that's what (1.0) Bah (C)
- 70 D Why would a scientist? (C)
- 71 C I knaa because what about if it was someone [that (A)
- 72 B [No] because anyone can have (0.8) anyone can have- (C)
- 73 E Anyone can have an axe (A)
- 74 C He might (0.5) he might have been [erm (C)
- 75 D [Are you] (0.5) do you think that a clown is going to be walking around with an axe in his hand?
Come on! (C)
- 76 B Nah man it's in the back of his car. (C)
- 77 F Aye. I know. In case. He might have been going for Christmas. You know. When they're chopping
them down since it's snowing (R)
- 78 D But then again he could have taken the axe because he knew that he could of crashed. (R)
- 79 F It was snowing. It was snowing so I think that he went to pick out a Christmas tree and he's got his
axe just to thingy. (R)
- 80 D Aye! (A)
- 81 F But his specs. He needs his- (C)
- 82 E What's the name of the boy? Sam? (Q)
- 83 F Andy. Right so Andy- (P)
- 84 D But then we still need to choose a chart. (1.0) It's got to be D. (0.3) B or A (M)
- 85 C I reckon it's going to be D.
- 86 D Yeah. It could be D. He's not that happy. When he crashes his car he's disappointed and then he's
happy at the end. (R)
- 87 F D in your opinion. What do you think it is? (Q)
- 88 B Scientist.
- 89 A I know but what graph? (Q)
- 90 B Erm (0.5) D.
- 91 C Er The fireman and D. The fireman and D
- 92 E The fire- er (0.6) the scientist and C
- 93 D The fireman and D

- 94 F We'll go for D on the graphs
- 95 C I think fireman and D
- 96 F We'll go for D on the graphs
- 97 D Yeah. I think we should go for fireman cos that's what everyone else thinks.
- 98 F D on the graphs
- 99 E Scientist=
- 100 C =Could I just make a point. Why would a scientist carry an axe? (C)
- 101 B Why would a fireman?=(C)
- 102 F =Anyone can carry an axe (C)
- 103 E Exactly! (A)
- 104 C The fireman needs to break down the door if there's a fire. (C)
- 105 D But then again she does have a point if she (0.6) if like it's snowing and it could be going (?) (A)
- 106 B Exactly if the the:: car could have got stuck and they couldn't have had a spade or sumink and they could have just (0.7) (R)
- 107 D Do you think that you'd axe your way out of the snow? (1.0) Are you just going to just whi::sht (C)
- 108 C What you going [with? (Q)
- 109 B [The scientist could have been chopping down trees. (C)
- 110 D I'll just go fireman (1.0) D=
- 111 C =I'm the same. I'm goin fireman D. Fireman D
- 112 D Fireman D
- 113 B Scientist D
- 114 E Scientist
(1.0)
- 115 C What's that? (Q)
- 116 B Two. (0.5) Scientists
- 117 C We're done. (M)

C3 Prototype iterations: Format

C3.1 Designed materials Week 1 Day 1

(Based on *The Silver Sword* (Serrailier 1956, p.10))

It was early morning when we finally arrived. We were high up near the mountains and a cold wind was blowing through the thin pine trees. It had been a long and uncomfortable journey and we were all very tired. Someone carrying a **sev** appeared at the gates and stopped us. Only those on the list would be let in. At that moment it began to snow.

Once we had been allowed through, I had a better chance to see what kind of place this was. There was a small road through the middle with a row of buildings on either side. They seemed very shabby and many had large cracks in the walls. Walking along the road were some people who looked just as tired as us. The lucky ones wore a heavy **jad** to keep out the cold.

Soon after we arrived a bell rang. It was time for **mur**. We had to wait for a long time before we could eat. There wasn't much of it and there would be nothing else to eat until tomorrow. I was still very hungry when I'd finished. Boredom seemed to be a big problem here. Most of the time there wasn't much for us to do.

Every now and then there would be a fight and someone would end up in trouble. They would then be taken away and we wouldn't see them for a few days, sometimes a whole week. Breaking the rules here could be expensive. At night, we tried to sleep, but the beds were very hard. Next morning we were woken up by the sound of **geps** in the corridor. The door was thrown open and we were ordered to get up.

sev	jad	mur	geps
			
			
			

C3.2 Designed materials Week 1 Day 2

It gives you push notifications	It can sense proximity	It has an oleophobic coating	It uses cloud technology
It tells you when you have a text message.	It can tell when you are holding it.	It is easy to keep clean.	It communicates with computers.
It tells you where to go.	It can see things far away.	It is difficult to steal.	It makes rain.
It tells you how much money you have.	It can detect flames.	It is difficult to break.	It makes lightening.
It tells you when it is hungry.	It can see in the dark.	It is poisonous.	It makes steam.
It tells you what floor you are on.	It can see your insides.	It is invisible	It keeps you dry.



It gives you push notifications	It can sense proximity
It tells you when you have a new text message.	It can tell when you are holding it.
It is easy to keep clean.	It communicates with computers.
It has an oleophobic coating	It uses cloud technology

C3.3 Designed materials Week 1 Day 3
(Based on *The House on Maple Street* (King 2012))

on holiday	amazed
The family had been summering in England and were glad to be home again.	Brian was incredulous when he saw what Melissa was talking about.
It was Melissa who first noticed that something had changed since they had been away. Although she was the youngest of the three children, she had the sharpest eyes.	A huge crack had appeared in the wall that wasn't there before they went away. He peered into the crack and saw something that looked like metal.
'Come upstairs with me' she said to her brother Brian. 'I gotta show you something. It's weird!'	He reached into the crack with a finger and tapped.
So, whilst the others were unpacking, they went upstairs....	'Yeah' he said. 'It's metal. It feels hot!'

worried	explosion
The children told their parents about the crack, but they didn't seem too concerned .	Thunder crumped like an artillery shell in the sky and deep in the house a powerful motor began to hum.
But Brain was concerned- he wanted to know what was going on. Later that night, he and Melissa went back for another look, this time armed with a drill.	'Get out' he shouted 'Get out of the house now before it's too late.' As they ran out of the house an electric blue light shot out through the windows and lit up the lawn as if it were daylight.
Brian made a small hole in the wall next to the crack and soon hit something hard.	Then the lawn seemed to pull apart and huge cracks appeared in the ground as if an earthquake had started.
As he pulled back the drill to make another hole he heard a deep rumbling somewhere downstairs...	The children covered their eyes in the bright light and staggered back.....

C3.4 Designed materials Week 1 Day 4

(Based on *Millions* (Cottrell Boyce 2004, pp.121-4)

4.00pm It is a Saturday afternoon in late September. Security guards seal off Platform 2 at Central Station and start to unload the money onto a train. The money is in 600 large sacks, each containing £10000. They are counted and then stacked in an armoured carriage.

5pm Nearly *ved* bags have been moved onto the train when suddenly a van roars into the station and drives straight at the guards. It screeches to a halt and out get three men wearing Newcastle United shirts and balaclava helmets. All of the men have baseball bats and tell the guards not to give them any trouble.

5.04pm The men use hammers to break into the train. They manage to get away with some sacks of money before the police rapid response unit arrives. Before they can be caught, *mur* men run back to the van which then drives off.

5.10pm The police chase the van which is recorded travelling at *jad* miles an hour. They call in a helicopter to help with the chase.

However, before the police can head them off, the van is abandoned in a side street near St James Park. The robbers are seen running off towards the town centre.

5.15pm The police now realise why the robbers were wearing football shirts. A match between Newcastle and Arsenal has just finished and nearly 20,000 fans are now crowding the streets. The robbers disappear into the crowd.

5.25pm The police have to give up on the search but they find that the robbers have left the *gep* missing sacks of stolen money in the van. It looks as though nothing was stolen after all.....

How many sacks were stolen?

ved	mur	jad	gep
300	2	50	6
100	3	40	7
599	0	30	15
1000	4	25	18

C3.5 Designed materials Week 2 Day 1

(Based on *The Battle of Bubble and Squeak* (Pearce 1980, pp.7-11))

'Squeak. Squeak. Squeak.'

'Wake up. I can hear a noise downstairs' said Bill's wife. 'Can't you hear it?'

Bill sat up and tried to clear his head. Yes, he could hear it. The noise seemed to be coming from the kitchen. Sometimes it was quite loud- other times you could hardly hear it. But it was there and, unfortunately, it was his job to go and have a look.

'Squeak. Squeak. Squeak.' There it was again.

He reached across to the bedside table, got the sev from the drawer and switched it on.

'I'm getting up' he said out loud. 'I'll go and see what it is.'

As he left the room he began to wonder who or what was making the noise. Maybe he should arm himself with something. A jad would be ideal, but they only had a gas fire in the living room so that was no use. Instead, he picked up a vase from the windowsill. It was heavy. That would do.

Across the landing, he could see that Sophie's door was open- wide open. He looked in. The curtains were drawn and a bright gep was shining through the window. Sophie's bed was empty. She was gone.

'Squeak. Squeak. Squeak.' Bill crept down the stairs. As he got closer to the kitchen, the noise got louder and louder. It sounded like something metal being rattled or shaken. Maybe he should try and get some help.

The mur was on the hall table next to him, but using it would make too much noise and might alert whoever- or whatever- was in the kitchen.

He got to the door, drew a deep breath and rushed in.

sev	jad	gep	mur
torch	poker	moon	phone
mobile	gun	sun	keys
clock	vase	light (D)	pans

C3.6 Designed materials Week 2 Day 2

(Based on *Kensuke's Kingdom* (Morpurgo 1999, pp.42-45))

We've had a terrible time-far worse than last week. But the weather is getting calmer at last. It's not easy to get any sleep when you are being slammed about all night!

Those are the last words I ever wrote in my diary. I'd heard Sally barking outside and went to see what the matter was. The wind was very strong and I had to hold on to the guard rail to avoid being blown over. I called Sally's name and whistled for her but she wouldn't come. I heard her barking again, but this time it was very faint. She seemed to be getting further away.

I heard the **sevs** flapping wildly above me. The sky was clearing but the breeze was still very strong. The rain made everything slippery and I nearly fell several times as I staggered along.

'This is crazy', I thought. 'I'm not wearing a **jad** and if a gust of wind were to blow me over I'd be in real trouble.' Just then I saw my football- the one I'd given Sally to play with. I tried to pick it up but before I could get to it rolled into the **gep** and disappeared.

I was angry with Sally for running off, but I was relieved all the same when I found her. I grabbed her collar and tried to get her to move but she wouldn't budge. By now I was wet, cold and really fed up, so I bent down to pick her up. As I did so to my horror I saw a huge **mur** rear up in front of us. I just about had time to cry out for help but by then it was too late to escape.

sev	jad	gep	mur
sail	lifejacket	sea	rock
flag	raincoat	bushes	cloud
bird	helmet	jungle	alien
wing	spacesuit	lava	dragon

Murs

This animal's habitat is the plains of central Africa. It has **rangy** legs that allow it to walk long distances. Walking is done by moving the legs on one side of the body at the same time, then doing the same on the other side. When galloping, the back legs move forward together in front of the fore legs. Moving like this, murs can reach speeds of up to 30 miles an hour.

Murs are covered in fur that is **mottled**. This helps to camouflage it, making it harder to see in the shady woodlands. Like our fingerprints, each mur has a unique fur pattern that is different from any other mur. The skin under the fur is very thick. This allows murs to run through thorn bushes without being scratched.

When murs fight it is called 'necking'. This is because they use their necks as weapons. The winner of the combat bout is usually the one that can remain upright the longest. During the fight, combatants spread out their front legs and swing their necks at their opponent. Depending on how well the opponents are matched, a necking duel can last half an hour. It is usually the **dominant** males that attract female mates.

Murs eat most in the wet season when their food is abundant. Their **primary** food source is acacia leaves, although they are known to feed on any evergreen plant material. Murs first chew the leaves, before swallowing them. Like cows, they then pass the semi-digested material back up into their mouth to chew again before swallowing it for a second time.

Murs tend to eat in open spaces where it is easier to spot danger. In the main **predation** is by lions, but they are also hunted by man. People in the past have made necklaces out of their tail hairs and their skin can be used to make shields and drums. The need for firewood has caused the habitat of murs to shrink rapidly in recent years.

rangy	mottled	dominant	primary	predation
long	spotted	strongest	main	eaten by
tall	striped	fastest	only	chased by
thin	curly	cleverest	favourite	attacked by

C3.8 Designed materials Week 2 Day 4

Geps

The gep is a popular type of food that can be found at most birthday parties for young and old. Most people think that the gep is a modern invention, but in fact they were first eaten by the ancient Greeks more than 2000 years ago. At first common only in Italy and parts of France, gepts are now made all over the world. The 'Australiana', for example, is a **distinctive** type of gep found in the restaurants of Melbourne and Sydney. It is usually served with a bacon and egg topping.

To make gepts you need water, yeast, salt and high protein flour (usually used for bread making). Once the dough has been kneaded, it is allowed to rise before it is **formed** by hand into a circle. A rolling pin cannot be used for this as this will cause the gep to become brittle when cooked. The ovens used to bake gepts need to be very hot- around 500 degrees Celsius is recommended. Because of this, cooking time is very quick. A gep normally takes around 90 seconds to bake and should be tender and **fragrant** when removed from the oven.

Although very tasty, there are concerns about negative health effects linked to eating gepts. Most gepts sold in fast food outlets contain **excessive** amounts of salt- sometimes more than twice the daily recommended intake for an adult. There has also been criticism of the large numbers of calories they contain, leading some doctors to conclude that gepts cause obesity.

The largest gep ever made was baked in South Africa. It was a massive 35 metres wide and weighed more than a small car. The most expensive gep ever made cost over £2000 and included toppings such as lobster, edible gold and caviar that had been **marinated** in wine.

distinctive	formed	fragrant	excessive	marinated
special	shaped	nice smelling	unhealthy	soaked
expensive	flattened	nice tasting	large	covered
common	mixed	very hot	small	cooked

C4 Prototype iterations: Content

(All iterations based on *The Improbable Cat* (Ahlberg 2002))

C4.1 Designed materials Week 3 Day 1

The Improbable Cat (1)

Billy and I were at the park because we had been evicted. All Mum, Dad and my sister Jade seemed to think about these days was the new kitten. They were always feeding it, talking to it and were constantly stroking its sleek black fur. So that's why we went up to the common that day.

For a couple of hours I played with Billy. I threw his ball for him and he chased after it **enthusiastically**. Then he chewed it and shook it about for a bit before reluctantly giving it back to me so I could throw it again. Finally, when we were both exhausted, we lay on the grass and I looked up at the sky. Dark clouds had gathered and it soon started to rain.

By the time we made it home again, the rain had started to come down very heavily. A sudden **squall** tore along the street and shook the top of the branches in the trees violently. Both Billy and I were soaked but, for some reason I didn't go straight inside. Instead I looked through the kitchen window....

Raindrops were pouring down the window, **distorting** my view of the kitchen. Even so, I could see that the kitten was on the kitchen table, which struck me as odd because Mum is usually so keen on hygiene. Even odder was the fact that the whole family were gathered around the table, not moving just staring at the cat.

Through the window, I could see that their **solemn** faces were tear stained, as if they had all been crying. I put that down to the rain and noticed with relief that my baby brother Robert seemed cheerful enough. He was in his highchair banging his spoon on the tray-table in front of him. Next to me, Billy got up on his hind legs and looked through the window too. He whined. Odd, I thought. Billy never whines....

Evicted <small>Dictionary meaning Dispossess dislodge</small>	Enthusiastically <small>Dictionary meaning Fanatically keenly</small>	Squall <small>Dictionary meaning Sudden violent gust of wind accompanied by rain</small>	Distorting <small>Dictionary meaning To give a false meaning to</small>	Solemn <small>Dictionary meaning Grave, sober or mirthless</small>
Shut out	Happily	Wind	Spoiling	Serious
Thrown out	Loudly	Car	Blocking	Happy
Taken away	Quickly	Storm	Soaking	Worried

C4.2 Designed materials Week 3 Day 2

The Improbable Cat (2)

My family is changing. Not in an obvious way– you know, growing a beard or dying their hair. The changes are **subtle** and I am the only one who seems to notice. To understand what I mean I'll have to tell you what my family were like before the cat came.

Normally Dad liked everything to be tidy. His shirt collars were always **pristine**. Trousers ironed and shoes polished. Every day when we got back from school he'd ask Jade and I how our day had been and help us with our homework. No matter how tired, he always took an interest in his kids.

Mum had been working part-time so that she could look after Robert. This meant that she always seemed to be rushing about– cooking; shopping; going to work; coming back from work. But, like Dad, she was always very **particular about things**. Tea was always ready by six and our lunches were always ready for us to take to school in the mornings.

Jade, on the other hand, was always grumpy. My sister usually seemed to find something to complain about. Jade is the sort of person who wants something until she gets it. Then she decides she doesn't want it– she wants something else instead. And in the mornings, when everyone was still waking up, she'd come down the stairs **like a ton of bricks**.

Now the cat has arrived, everything is different. When Dad gets home from work he **obsessively** fusses over the cat and ignores everyone else. Mum has started having time off work so that she can buy things for the cat but not for us. Sometimes we have to wait until eight or nine o'clock before we get anything to eat. Sometimes we don't get anything at all. As for Jade, she's always so calm these days– slowly stroking the cat and smiling quietly to herself.

Subtle <small>Dictionary meaning Difficult to perceive</small>	Pristine <small>Dictionary meaning Fresh, clean, unspoiled</small>	Particular about things <small>Dictionary meaning Exacting, especially in details</small>	Like a ton of bricks <small>Dictionary meaning Like a great burden</small>	Obsessively <small>Dictionary meaning Continually occupied with a particular activity</small>
Small	Clean	Careful	Loudly	Constantly
Obvious	White	Organised	Quickly	Happily
Good	Cotton	Forgetful	Quietly	Lovingly

C4.3 Designed materials Week 3 Day 3

The Improbable Cat (3)

I decided that something had to be done about the cat. I found some sleeping pills in the bathroom cupboard and ground them up into a fine powder. I watched Mum make the cat's tea and, when her back was turned, I **smartly** nipped over and emptied the powder into the bowl. The bowl was then put on the floor and the cat ate ravenously, finishing the whole lot in a few seconds.

I called my friend Andy on the phone and told him to come over. When he arrived, the cat was in the living room watching the television. The room always seemed darker when the cat was around. In the gloom I could see that the floor was covered in **debris**—crisp packets and dirty bowls littered the floor. The cat, on the other hand, looked very healthy and well groomed as it sat staring at a gardening programme.

Andy and I watched the cat for an hour but nothing happened. 'That cat could eat a **hopper-full** of pills and still not even feel a little bit sleepy' I whispered.

At that moment, the doorbell rang. No one else was in the house so I got up to answer it. I opened the door to a man who was selling dusters and told him that everyone was out and to come back later.

When I got back, the living room seemed much darker. The air was **stifling** and I felt my chest tighten. All of a sudden, it was very warm in there even though the heating was turned off. Then I noticed where Andy was. He was sitting next to the cat watching the TV with a curious blank expression on his face. He was stretching out his hand to stroke the cat....

'Don't touch it!' I yelled, and I ran over to grab him.

Smartly Dictionary meaning Prompt in action	Debris Dictionary meaning Litter, trash	Hopper full Dictionary meaning Open topped truck for transport of loose materials	Stifling Dictionary meaning To cause difficulty in breathing
Quickly	Litter	Truck full	Hard to breathe
Cleverly	Carpet	Sack full	Bad smelling
Silently	Mess	Hand full	Warm

C4.4 Designed materials Week 3 Day 4

The Improbable Cat (4)

It was stroking that allowed the cat to control the people around it. Only those who touched it would fall under its **malign** spell. I never stroked it because of my allergy. Robert was too little to be allowed near the cat, and Billy the dog hates cats so he never goes near them. We were the only members of the family who were not cat slaves!

George and I were now standing in the kitchen. Outside the summer sun was shining brightly and the birds were singing as if nothing had happened and it had all been a dream. I was **shivering**.

'You were going to touch it! What were you thinking?' I said.

'I don't know' said Andy. 'I don't remember sitting next to the cat. It was so dark in there.'

Outside I heard the sound of car doors slamming. The rest of the family had returned from the shops.

'Morning Mrs Thomas' said Andy as Mum came into the kitchen.

'Morning Andrew' she said **distractedly** as she put the heavy carrier bags full of cat food down on the table. There was so much of it- enough to last for a siege. I wanted to talk to Mum about what had happened but I knew she wouldn't listen. I signalled to Andy that we should go and got Billy's lead.

On the way to the park, Andy and I talked about the 'kitten'. It was obviously no ordinary cat- it might not even be a cat at all. If that was true, I was wondering what we had living with us in our house. What at first had seemed like a **defenceless** kitten had now turned into a monster. Where had it come from? What was it going to do next?

Things were coming to a head. I had to save the family before it was too late.

Malign <small>Dictionary meaning Evil in effect</small>	Shivering <small>Dictionary meaning Involuntary trembling</small>	Distractedly <small>Dictionary meaning Not responding normally, inattentively</small>	Defenceless <small>Dictionary meaning Without resistance against danger</small>
Evil	Shocked	Hazily	Harmless
Magic	Cold	Kindly	Dangerous
Powerful	Nervous	Tiredly	Small

C4.5 Designed materials Week 4 Day 1

The Improbable Cat (5)

Later that week we were given a letter to take home from school. It was about the summer camp and explained all the things that we would need to take with us. I was **pessimistic** about being allowed to go on the trip, but decided to ask anyway. I showed dad the list and asked if I could have some money for a torch. Dad looked really wild. His hair was all over the place and I thought for a minute that he was going to yell at me. Instead he gave me twenty pounds!

I couldn't sleep that night for worrying about all the things that had happened since the cat had shown up. I wasn't able to see how I could stop the cat from taking over my family. I could try going to the police or telling the teachers at school but who would believe me? The cat was growing bigger everyday, but there is nothing **sinister** about a family cat with weight problems.

From downstairs I could hear the sound of **canned** laughter- from the sound of things they were all downstairs in the living room watching a game show on TV. I could imagine the scene. There would be no light on, just a candle or two and the glow of the TV screen. The curtains would be closed and they'd all be gathered around the cat stroking it in the darkness. Sometimes even I had trouble believing what was going on.

I looked in on Luke who was asleep in the room next door. He was okay so I went back to bed with a yawn. Outside the shadows were **gathering** and warm lights glowed in the windows of the houses. Beside me, Billy stirred and a soft growl came from his throat as his paws twitched. I ran my hand through the straggly fur and his back and rubbed his ears.

Good old Billy....He believes me.

Pessimistic <small>Dictionary meaning The tendency to expect the worst</small>	Sinister <small>Dictionary meaning Ominous, threatening</small>	Canned <small>Dictionary meaning Recorded in advance, not spontaneous</small>	Gathering <small>Dictionary meaning To grow as by accretion</small>
Not hopeful	Suspicious	Fake	Growing
Not sure	Dangerous	Loud	Shrinking
Not happy	Unlucky	Happy	Dark
Not bothered	Bad	Silly	Spooky

C4.6 Designed materials Week 4 Day 2

The Improbable Cat (6)

Two weeks later, at six in the morning, the coach came to take us to the school camp at Thomas's farm. All the parents yawned sleepily as they waved us off, apart from my Dad. He just looked anxiously at his watch as if he was desperate to get away. Then we were off, each mile taking us further from our homes, our families, our computer games and our pets... I struggled with my **conscience** as we sang our happy songs and told jokes. I told myself that the family would be okay and that nothing bad would happen whilst I was on holiday.

The farm was brilliant. There was a large stable of horses and lots of chickens. The cows had just calved and one of our jobs was to feed the baby cows. You do this by putting milk on your finger and letting them lick it off. The fields surrounding the farm were full of trees to climb, some of which had ropes that you could swing on. In the afternoons they tried to tire us out by making us go on long walks but **in vain**. Our torches were on most of the night and it was usually us that woke the cockerel up at dawn– not the other way round.

The farm was just what I needed after the last few weeks. The work we had to do was hard, but it was a welcome **distraction** from my troubles. After three days I'd stopped thinking about the cat and all that had happened. It was as if it had all been a dream. Until, that is, I had my idea. There were five of us that were told to stack some straw bales. It was hot work and the straw scratched our skin and made it itchy. As soon as the farmer's back was turned we started messing around.

First we built some steps and jumped off the top. Then we built a fort. Exhausted, we then collapsed on the ground and lay in the sun. That's when I had the idea– the cat idea. I was lying on the spiky straw that felt like a bed of nails under my tee shirt. **'Eureka!'** I said out loud.

'What are you talking about?' said Andy.
'Oh nothing' I said. I didn't want to talk about it until I had a clear plan in my head. A plan to get rid of that cat once and for all.

Conscience <small>Dictionary meaning The inner sense of what is right and wrong</small>	In vain <small>Dictionary meaning Ineffectual or unsuccessful</small>	Distraction <small>Dictionary meaning Something that serves as a diversion</small>	Eureka <small>Dictionary meaning I have found it</small>
Guilt	Unsuccessfully	Escape	I've got it!
Sadness	Too late	Journey	Ouch!
Tent	A long way	Distance	Oh no!
Seatbelt	As a joke	Job	Let's go!
Experience	Not far	Problem	Hello!

C4.7 Designed materials Week 4 Day 3

The Improbable Cat (7)

It was midnight when the coach finally arrived back at the school. All the parents were there to meet us- apart from mine that is. Andy's mum suggested that they must have got their dates mixed up and she very kindly gave me a lift home. As we pulled up outside my house I could see that the door was ajar and that a gatepost had been shattered. The car now had a big dent in it. I got my things out of the boot, full of **trepidation** as to what I might find inside the house.

As I entered the kitchen I was greeted by an **emaciated** Billy. His food bowl had been licked clean, his water bowl was empty and he was so thin his ribs were showing through his fur. I put some Pal into his bowl and he wolfed it down quickly- it was obvious that he hadn't been fed for days. I was furious and shouted for Mum and Dad, but there was no answer.

'They can't be out shopping at this hour!' I thought to myself.

I went upstairs to their bedroom but it was empty. Things had obviously **deteriorated** since I'd gone away. The bed had been leaned against the far wall and the mattress was now on the floor. A sheet had been nailed across the window and the floor was covered with unwashed clothes and dirty dishes. It wasn't a room so much as a den that a bear or some other wild animal might live in. I went back downstairs again, dreading what I would find in the living room....

Inside, the room was pitch black. An armchair was placed with it's back to the door, facing the TV which was switched on with the sound muted. In the chair was sitting the cat. To my horror I saw that it had now grown to the size of an adult human being. Also, it wasn't curled up on the chair like cats normally do- it was sitting upright and had a smouldering cigar in its mouth. As I entered the room it turned its fearsome head towards me and stared for a while. Then it **nonchalantly** took a sip from a glass of wine and turned its attention back to the TV.

Not believing what I was seeing, I ran out of the room.

Trepidation Dictionary meaning <i>Tremulous fear</i>	Emaciated Dictionary meaning <i>To become abnormally thin</i>	Deteriorated Dictionary meaning <i>To become or make worse</i>	Nonchalantly Dictionary meaning <i>Indifferent or unexcited</i>
Fear	Starving	Got worse	Calmly
Hope	Excited	Got better	Thirstily
Anger	Happy	Got damaged	Hungrily
Sadness	Noisy	Happened	Menacingly

C4.8 Designed materials Week 4 Day 4

The Improbable Cat (8)

As I ran out of the door I bumped into Mum and Dad. They had been shopping at the all night supermarket and were carrying bags full of cat food. I was **livid** and shouted at them to tell me what was going on.

'Don't shout so loud or you'll spoil everything' said Dad in a faraway voice. 'It won't be long now.'

Before I had time to ask him what he meant, Billy ran in the front door barking furiously. Following behind him were all the dogs who lived on our street.








This was the plan I had thought of at the farm. What better way to get rid of a cat than with the help of its old enemy, the dog? I chased after the pack of hounds into the living room and found a scene of **pandemonium**. In the middle of the room was the cat, standing upright and lashing out with its razor sharp claws. A labrador called Henry had one of the cat's legs in its vice like jaws. Meanwhile a poodle called Benny had hold of the cat's tail and was tugging for all he was worth. Trying to help, I grabbed a tennis racket and struck the monster a blow on the head with it.

If the cat had stood its ground it would probably have been too strong for us. But it was outnumbered and the dogs, particularly Billy, all fought bravely. So, with a terrifying howl, the cat leapt across the room and through the front window with a deafening crash. We all ran to the front door just in time to see it jump over the hedge and into the road. Suddenly there was a screeching of brakes and then a crash. In the headlights we could see that the cat was dead- **pulverised** by a passing petrol tanker.

After that things slowly returned to normal. In fact, Mum Dad and Jade recovered quicker than I did. Maybe that is because they were **anesthetised** by the cat and can't remember. But I can remember everything and often wonder where the cat came from. What would have happened if the cat had lived longer? What did Dad mean when he said 'it won't be long now'? I'd never know the answer to these questions. Maybe it was better that way...

Livid <small>Dictionary meaning Furiously angry</small>	Pandemonium <small>Dictionary meaning Tumult or chaos</small>	Pulverised <small>Dictionary meaning To demolish or crush</small>	Anesthetised <small>Dictionary meaning To render Insensible</small>
Furious	Confusion	Crushed	Hypnotised
Upset	Fighting	Run over	Fooled
Confused	Mess	Killed	Tricked
Tired	Damage	Hit	Threatened

C5 Pupil peer review sheets
C5.1 Version 1

Video analysis record sheet			
Analysts:			
Date.....		Text..... Group.....	
Reading		Thinking	
Skill	Time	Skill	Time
		 	18 35 (16)
X ✓	00:43 1:56 3:35 (14) 3:42 5:06		
		 	18 All. 1:06 1:37 (14)
			

Observation sheet

Observer: Date

Group observed



1



2



3



4




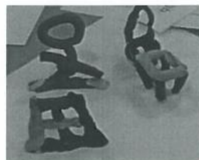
5

[illegible]

John	Ned	Pete	Roy
4	4	4	4



John	Ned	Pete	Roy
3	3	 4	4



John	Ned	Pete	Roy
L	L	L	L

Which task was the least successful?

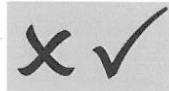
Reading

Word-
matching

Drawing & making

Filming & telling

Observation sheet	
Observer: Fay	Date .. .
Group observed: B	

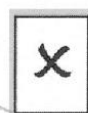


Siobahn	Victoria	Courtney	Chloe
✓	✓	✓	✓



Siobahn	Victoria	Courtney	Chloe
✓	✓	✓	✓

Sue and **May** didn't let **Lily** and **Eve** do much work at the start.



Notices
Something
wrong



Notices
something
missed out



Siobahn	Victoria	Courtney	Chloe

Appendix D Video logs (weeks 3 & 4)

D1 Layout of video logs

Each video log is split into four sections:

- *Reading*- recordings of the students' attempt to read the narrative text.
- *Solving*- recordings of the students' attempts to solve the designed interpretive dilemmas.
- *Making*- recordings of students as they construct artefacts to be used in a retell of the narrative.
- *Retell*- recordings of students' retell of the narrative using the artefacts they have made.

The 'reading' section serves as the cover page for each log. This is formatted as below:

Wk 3 Day 1 Grp A Bookmarks: Read (0.00-2.28); Solve (2.29-4.57); Make (5.24-18.00); Retell (Group B video 20.22-20.51)

Notes

Jill begins reading and gets up to 'slak black fur' before she is interrupted by Lily (Group B) whose asking a question about the task. Instead of carrying on Jill stops the camera and starts again in order to achieve a perfect recording. Jill's reading is very fast and robotic with words slurred into one another. Kim's reading is slower, word by word with little phrasing or expression. She appeals to Fay for help with 'reluctantly' but Fay is unable to read the word and it remains uncorrected. If a word proves difficult in this group, a short time is spent trying to solve it and then the reader moves on. Unlike Lily's interruption, these glitches are not seen as ruining the recording. Fay's reading by contrast, is characterised by good phrasing and some expression. Throughout, Fay follows the text as others read. Kim tries to distract Jill with the voice recorder when Jill is reading (A). When Kim is reading, Jill busies herself with the materials for the task.

The Improbable Cat (1)

Billy and I were at the park because we had been **excited**. All Mum, Dad and my sister Jade seemed to think about these days **was** the new kitten. They were always feeding it, talking to it and were **constantly** stroking its sleek black fur. Unlike me, I can't go near cats because I'm allergic to them. So that's why we went up to the common that day.

For a couple of hours I played with Billy. I threw his ball for him and he chased after it **enthusiastically**. Then he chewed it and shook it about for a bit **before reluctantly** giving it back to me so I could throw it again. Finally, when we were both exhausted, we lay on the grass and I looked up at the sky. Dark clouds had gathered and it soon started to rain.

By the time we made it home again, the rain had started to **pour** down very heavily. A sudden squall here along the street and shook the big branches in the trees violently. Both Billy and I were soaked but, for some reason I didn't go straight inside. Instead I looked through the kitchen window.

Raindrops were pouring down the window, distorting my view of the **kitchen**. Even so, I could see that the kitten was on the kitchen table, which struck me as odd because mum is usually so keen on hygiene. Even odder was the fact that the whole family were gathered around the table, not moving, just staring at the cat.

Through the window, I could see that **their solemn** faces were **tear stained**, as if they had all been crying. I put that down to the rain and noticed with relief that my baby brother Robert seemed cheerful enough. He was in **his** high chair banging his spoon on the tray-table in front of him. Next to me, Billy got up on his hind legs and looked through the window too. He whined. CMM, I thought. Billy never whines....

Text reading

1 & 4 Jill (W11.00/F12.00/NF8.06)
2 & 5 Kim (W12.06/F10.08/NF9.05)
3 Fay (W10.06/F9.08/NF13.02)

Red: Error Blue: corrected error

A

Still image of group arrangement marked with the order in which they read the text.

Bookmarks for each section of the recording

Copy of the text that was read. Red words are errors in reading that were not corrected. Blue words are errors that were corrected.


Commentary on the reading of the text combining video observation with field notes.

Allocation of each passage to a given reader, along with their standardised ages for word reading (W), fiction comprehension (F) and non-fiction comprehension (NF).

Sections highlighted in yellow are directly referred to in the main body of the thesis.

D2 Video logs (weeks 3-4)

D2.1 Week 3 Day 1 Group A

Wk 3 Day 1 Grp A		Bookmarks: Read (0.00-2.28): Solve (2.29-4.57): Make (5.24-18.00): Retell (Group B video 20.22-20.51)					
R E A D I N G	Notes Jill begins reading and gets up to 'sleek black fur' before she is interrupted by Lily (Group B) whose asking a question about the task. Instead of carrying on Jill stops the camera and starts again in order to achieve a perfect recording. Jill's reading is very fast and robotic with words slurred into one another. Kim's reading is slower, word by word with little phrasing or expression. She appeals to Fay for help with 'reluctantly' but Fay is unable to read the word and it remains unsolved. If a word proves difficult in this group, a short time is spent trying to solve it and then the reader moves on. Unlike Lily's interruption, these glitches are not seen as ruining the recording. Fay's reading by contrast, is characterised by good phrasing and some expression. Throughout, Fay follows the text as others read. Kim tries to distract Jill with the voice recorder when Jill is reading (A). When Kim is reading, Jill busies herself with the materials for the task.	The Improbable Cat (1) Billy and I were at the park because we had been evicted . All Mum, Dad and my sister Jade seemed to think about these days was the new kitten. They were always feeding it, talking to it and were constantly stroking its sleek black fur. Unlike me. I can't go near cats because I'm allergic to them. So that's why we went up to the common that day. For a couple of hours I played with Billy. I threw his ball for him and he chased after it enthusiastically . Then he chewed it and shook it about for a bit before reluctantly giving it back to me so I could throw it again. Finally, when we were both exhausted, we lay on the grass and I looked up at the sky. Dark clouds had gathered and it soon started to rain. By the time we made it home again, the rain had started to come down very heavily. A sudden squall tore along the street and shook the top branches in the trees violently. Both Billy and I were soaked but, for some reason I didn't go straight inside. Instead looked through the kitchen window.... Raindrops were pouring down the window, distorting my view of the kitchen. Even so , I could see that the kitten was on the kitchen table, which struck me as odd because mum is usually so keen on hygiene. Even odder was the fact that the whole family were gathered around the table, not moving, just staring at the cat. Through the window, I could see that their solemn faces were tear stained , as if they had all been crying. I put that down to the rain and noticed with relief that my baby brother Robert seemed cheerful enough. He was in his high chair banging his spoon on the tray-table in front of him. Next to me, Billy got up on his hind legs and looked through the window too. He whined. Odd, I thought. Billy never whines.....	<div>1</div> <div>2</div> <div>3</div> <div>4</div> <div>5</div>				
	<table border="1"> <thead> <tr> <th>Text reading</th> </tr> </thead> <tbody> <tr> <td>1 & 4 Jill (W11.00/F12.00/NF8.06)</td> </tr> <tr> <td>2 & 5 Kim (W12.06/F10.08/NF9.05)</td> </tr> <tr> <td>3 Fay (W10.06/F9.08/NF13.02)</td> </tr> <tr> <td>Red: Error Blue: corrected error</td> </tr> </tbody> </table>		Text reading	1 & 4 Jill (W11.00/F12.00/NF8.06)	2 & 5 Kim (W12.06/F10.08/NF9.05)	3 Fay (W10.06/F9.08/NF13.02)	Red: Error Blue: corrected error
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	2 & 5 Kim (W12.06/F10.08/NF9.05)						
3 Fay (W10.06/F9.08/NF13.02)							
Red: Error Blue: corrected error							
<div>A</div> 							

Target word: *Evicted* **Selection:** *taken away*

Jill reads the target word as **evacuated** and looks for it in the text. Kim shouts *It's there!* and points to it. Fay tells them the word is **evicted** and Kim and Jill laugh and repeat the word. Fay says *That means you can't go back*. Jill contradicts her *No evicted means you go*, which is still a definition of evacuated. Fay says *it means you're not suppose to be there or you're kicked out*. Kim points to a card **taken away** (below). Jill agrees and places it on the answer sheet, despite the fact that **thrown out** is a better fit for Fay's definition. However, because this paragraph was read by Jill it is her decision, not Fay's.

Target word: *Enthusiastically* **Selection:** *happy*

Kim read the second paragraph and takes responsibility for making this selection. She chooses **happy** whilst the others are working on **evicted** and places it on the answer sheet. The others do not notice this. Later she points to the answer sheet and says *'This is one's mine'*. The others make no comment.

Target word: *Squall* **Selection:** *wind*

Kim reads **squall** and laughs and tells Fay to solve it – Jill reminds Fay that it was her paragraph when they read the text. Despite this Jill starts listing alternatives such as **blocking** that make no grammatical sense. Fay proposes **'wind or storm'**. Jill asks where the card marked **wind** is and Jill points (below). Jill, not Fay, checks this, reading **A sudden wind tore along the street**. Kim confirms this as the correct selection *'Aye'* and Jill places it on the answer sheet.



Target word: *Distorting* **Selection:** *blocking*

Jill read this paragraph and so takes responsibility for solving this word. She reads it as **distorting** and then correctly as **distorted**. She searches for it in the text reading *pouring down the window distorting my view*. She then says *'blocking my view of the kitchen'* and looks across to Fay who nods. Jill places the card on the answer sheet.

Target word: *Solenn* **Selection:** *soaking*

Kim read this paragraph and so solves this word. *That ones soaking. Look!* The she holds the card against the text as she misreads **I could see the soaking faces were tear strained** (below). Jill agrees and Kim places the card.



At this point Jill goes off to get some materials from the researcher. As she and Kim wait Fay voices her doubts that **wind** is the correct solution for **squall**. She points to the text *Wind doesn't make sense you know. Look. A sudden wind tore along the street*. Jill returns without the researcher. Fay says *I don't know about wind, storm makes more sense*. Fay reads the text with **storm** inserted. However at this point the researcher arrives with the materials. After he leaves, Fay says *Wind does make sense* and **wind** is put back onto the answer sheet. This episode suggests that Fay felt she had to wait for down time to voice her doubts so that her concerns would not interrupt the smooth operation of the group.

Summarising

Jill focuses the task by summarising the cards that the group selected. She asks Fay and Kim *What do you think it is?* Fay defends the selections that group made- *That sounds right, cos I read the paragraph.* Jill gets frustrated - *No! What do you think it IS though?* Kim, meanwhile, is playing the play dough (1). She then bangs her fist on the table (2). *We've got to know what it is! It's taken away... and it's happy... and the winds blowing and its blocking and it's soaking.* Kim says *Well obviously it's got to be raining!* Kim then sets about finding the blue play dough.

Jill then challenges Kim - *How do you know what it is?* Kim shouts and gesticulates with her hand - *It's raining!* (3) She then stabs at the answer sheet with her finger (4). *Obviously it's going to be soaking!*

Fay reminds the group that they need to say something about the kitten. Fay says to Kim *Shall we say it got taken away and then got soaking or something?* Kim says *No! It got taken away by its mam right.. This is what I'm thinking and then it's happy with another family and then it's windy and then it's blocking... Well it might be!* Meanwhile Fay gives Jill some black dough, reasoning that the cat is black (There is a reference in the text to 'sleek black fur'). Kim continues... *and then it's raining and the cat's soaking.*

Planning

The group quickly decide conventional colours for the images (green & brown for the tree; blue for raindrops; yellow for sun).

Making

Each makes a different part of the image that will summarise the story. Jill makes the cat, Kim makes a tree, Fay watches and advises. There are very few references to the story or the selected words. Jill says *The cat's happy.* Fay says *The cat should look soaking* and provides Jill with blue dough to make a puddle. Fay then adds *Wasn't it sunny, the day though?* Kim says *Yeah! Where's yellow!* Fay then produces some pink dough - *What could we use pink for?* (5) The others ignore her and ask for ideas for blocking. Fay produces white and suggests that that could be used for the window. Jill says *Aye, the cat was blocking the window!*

Waiting

The group finish sometime before the other groups. Jill says *We have to remember as much as we can.* Kim, pointing to their work says *there's a puddle, a cat, a tree, a window.* Jill says *No!.. About the story what we....* The girls rehearse their version of the story.

1



2



3



4



5



RETELL



(Filming by Sue Group B)

Fay- It starts with the sun. (Looks at Kim).

Kim- I can't explain it (Puts head in hands).

Fay- Its started raining like and then the wind came and blew the branches on the trees.

Kim- And then it started raining.... And the cat was blocking the window... and the cat was soaking.

Fay- That's done!

Wk 3 Day 1 Grp B

Book marks: Read (0.00-3.53): Solve (5.30-8.58):

Make (9.50-19.16): Retell (Group A video 20.47-22.00)

READING

Notes

Eve is slow and careful but mistakes 'kitten' for 'kitchen'. (Later she notices and corrects this error in paragraph 4). It is likely that the others saw this error but no one corrects her. When Eve struggles with 'sleek' the other girls giggle and exchange glances (A).

Lily (chewing gum) giggles again when she struggles to read 'enthusiastically'. This time Sue helps her by telling her the word. Lily's attempt at 'reluctantly' is delivered sotto voce and is barely audible. Lily again giggles when she is unable to read 'stained' and misses the word out. Jill uses a cornic voice when she struggles with 'tray table'. It is Sue, the weakest reader in the group, who helps Lily, the strongest reader, with 'hind'.

The Improbable Cat (1)

Billy and I were at the park because we had been **evicted**. All Mum, Dad and my sister Jade seemed to think about these days was the new **kitten**. They were always **feeding** it, talking to it and were constantly stroking its **sleek** black fur. Unlike me. I can't go near cats because I'm allergic to them. So that's why we went up to the common that day.

For a couple of hours I played with Billy. I threw his ball for him and he chased after it **enthusiastically**. Then he chewed it and shook it about for a bit before **reluctantly** giving it back to me so I could throw it again. Finally, when we **were** both exhausted, we lay on the grass and I looked up at the sky. Dark clouds had gathered and it soon started to rain.

By the time we made it home again, the rain had started to come down very heavily. A sudden **squall** tore along the street and shook the top branches in the trees violently. Both Billy and I were soaked but, for some reason I didn't go straight inside. Instead looked through the kitchen window....

Raindrops were pouring down the window, **distorting** my view of the kitchen. Even so, I could see that the **kitten** was on the kitchen table, which struck me as odd because mum is usually so keen on hygiene. Even odder was the fact that the whole family were gathered around the table, not moving, just **staring** at the cat.

Through the window, I could see that their **solemn** faces were tear **stained**, as if they had all been crying. I put **that** down to the rain and noticed with relief that my baby brother Robert seemed cheerful enough. He was in his high chair banging his spoon on the **tray-table** in front of him. Next to me, Billy got up on his **hind** legs and looked through the window too. He whined. Odd, I thought. Billy never whines.....

Text reading

1 Eve (W10.00/F8.06/NFna)

2 Lily (W9.06/F12.00/NF13.02)

3 Sue (W9.06/F7.07/NF7.07)

Red: Error Blue: corrected error

A



Organising the materials

The girls then spend around a minute organising the materials needed to do the next task. They locate the target word 'evicted' in the text and lay out the cards on the table that they will need to solve the word. As they do this, a short conversation takes place about leadership of the group.

Lily [Takes the envelope containing the cards from Sue] *Right, we're going to work as a team and I'm the team boss. (1)*

Sue [Laughs and begins reading the first target sentence]- *Billy and I were at the park*

Lily [Laying out the cards]- *Shh!*

Sue [Continuing to read]- *....we had been....*

Lily- *Shut up!* [Elbows Sue (2)]

Sue [Continues to read]- *....evicted..*

Lily [Threatens to slap Sue. Sue flinches and laughs (3)]

Sue- What's evicted?

Lily- [Still dealing the cards out]- We're not on that one.

[Researcher arrives to check on the group]

1



2



3



Target word: *Evicted* **Selected:** *thrown out*

Lily tries to pronounce **evicted** and gets as far as **evict**. She appeals first to Sue and then to Eve for help but they decline. *We need to read the words around it* says Lily. Then Eve leans across to look at Lily's text (despite the fact she has her own copy) and reads the word correctly. *Oh!* Says Lily. *You have been evicted from the house* and laughs. *Right* says Lily, calling the group to order and slapping her hands on the text to signal where the group's attention needs to be. Lily then carries out an extensive search for information, reading **Billy and I were at the park because we had been evicted. All Mum, Dad and my sister Jade seemed to think about these days was the new kitten....** Eve follows with her copy of the text but Sue looks at the cards. When Lily finishes Sue thumps the card marked **thrown out** with a flourish. *Evicted...* says Lily and, nodding, says *Thrown out!* and picks up this card. She then starts pointing to each card at random, trying them all out. She then stops. *Who thinks it's thrown out and who thinks it's taken away?* This is, in effect, an election. Eve and Sue vote for **thrown out**, which Lily is still holding in her hand. Lily scans the other cards *Let's see if there's anything else....* *No it's that one!* And dramatically thumps the card onto the answer sheet.

Target word: *Enthusiastically* **Selected:** *quickly*

Lily asks *What does that one say?* Eve tries **Enthusiaticual**, then Sue reads it correctly for the group. *Listen!* Says Lily, interrupting. *We need to read the words around it.* She again carries out an extensive search, this time using a comic voice which impedes the accuracy of her reading - **For a couple of hours I played with Billy. I threw his ball for him and he chased after it enthusiastically. Then he chewed it and [then he] shook it and bit it off** (laughs). Lily points to **enthusiastically** in the text - *That one is....* Sue proposes **quickly**. Lily picks up the card and holds it up to an imaginary audience. *Do you think it's quickly?* She says turning to Eve. Eve agrees and Lily places it on the answer sheet.

Target word: *Squall* **Selected:** *storm*

Lily reads the target word as **squirrel**. The girls laugh and are still laughing when Lily makes her extended search - **By the time we made it home again, the rain had started to come down very heavily. A sudden [squill] tore along the street and shook the top of the branches.....** She starts randomly going through the cards again until she gets to **wind**. She does not pick up the card, but appeals. *Who thinks it's wind, cos it can't be....* And then she starts listing the cards again. She reads **storm**, and pauses, then the whole group laugh. Sue says *Yeah it's storm*. Lily says *No because it could be wind because it says...* Ignoring her Sue places **storm** on the answer sheet. Lily addresses an imaginary audience - *It's storm (below).*



Target word: *Distorting* **Selected:** *blocking*

Again Lily leads with an extended search - **Raindrops were pouring down the window, distorting my view of the kitchen.** Sue says *That means blocking* and reaches across to point to the card (but does not pick it up). The proposal is inconsistent with the sense of the following sentence in the text in that the character can see through the window into the kitchen. Despite this Lily picks up the card, asks Eve's opinion and then with another theatrical flourish, places the card on the answer sheet.

Target word: *Solamn* **Selected:** *worried*

Lily again reads the entire target sentence. The group scan the cards but with no success. *Well we'll read...* says Lily and slaps her copy of the text. *Cos it can't be serious (comic voice) I'm serious about this.* She turns to Eve and repeats this performance, again slapping the table. She asks Eve - *Do you think it's worried... I think it's worried.* Eve agrees. Lily turns to Sue, gets her approval. *We all think it's worried, so (places the card) it's bang on the dot!*

Organising

The group spend 2-3 minutes distributing the play dough, and paper needed for the task (1). They are giggly and joke about the smell of the dough. Lily calls the group to order- *Right! Calm yourself down!*

Lily decides she will make the cat. Sue then says she'll make the window. Lily tells Eve to make a table. Lily changes her mind and tells Eve she'll make the table. Eve complains she can't make/ draw a cat. They argue good naturedly for a short while. Lily concedes and agrees to make the cat.

Making

Making takes place on two sheets of A3, one for Sue and the other for Lily. Eve does not take a sheet.

Lily criticises Eve for making the table too big. Sue tells Sue says that she will make the table- Eve makes a window. Lily tells Eve to make the head of the cat, and gives her some instructions- *You need whiskers... didn't you know that cats go Meow! And they lick their whiskers.... They do though! And they go puuurr!*

Lily changes her mind again telling Eve- *You make a window and I'll make a pussy cat.* Sue asks what else they need to do and says she'll make *the boy looking out the window.* The others don't respond. Sue stands the boy up and the others laugh (2). Sue says she needs a window for the boy to look through. Eve says *Here's my window... Look at my window!* But the others ignore her. She then holds the window up to her face, looks through it and says *Hello!* (3) Sue then tells her to pass the window (4). Lily comments that Sue needs a chair for her assemblage, and starts to make one. Lily takes dough off Eve and dismantles what Eve was making in order to do this. Eve complains *I need mine.* But Lily takes it anyway- *I'm making a chair!* and pretends to cry- *Don't pick on us!* Eve, laughing, asks the other two *What am I making?* Sue tells her *You make the window! You made a disgrace.. Look at that!* (laughing) *No! It's a dead good window.* Then Sue's model of the boy falls over. Lily says *That's cos he's seen Eve's face. I'm not being nasty Eve... But it's true.* Sue interrupts *Why we even did a table? There isn't a table in that story!* Lily takes no notice- she is still taking dough off Eve and arguing. When she finishes the chair, Lily says- *They only have one chair because they're poor.* Sue laughs very loudly. Eve comments that the cat that Lily has made should be on the table. Lily says the cat is too heavy and the table will be squashed. The cat remains on a separate sheet from the main assembly.

Lily announces they are finished- *Done!* (5) and initiates two retells prior to the arrival of Jill who will film the retell (see over).

1



2



3



4



5



RETELL



Lily retells the story three times:

1 Rehearsal to other members of the group

The friends got thrown out cos mum and dad, all they cared about (laughs) was the cat right! Then they went outside and quickly played and then a storm came and then the sun was blocking so they couldn't look out the window. The people got worried cos they were just standing there staring....

2 Retell for the researcher

This is the summary Lily gave the researcher when he called to check that the group were ready.

The two boys got chucked out cos all they were caring about was the cat. They were playing outside very quickly and then a storm came and then the sun was blocking outside the window and then they all got worried cos they all stood around the table staring at something.

3 Final version (Filming by Jill Group A)

Lily: *The two boys got thrown out of the house cos.... Their mam and dad were only caring about the cat.*

Eve: *Then they were playing loudly....quickly and the storm came.*

Lily: *The sun was blocking the window so he could see outside the window at the cat and all of them were worried for some reason and they were just staring into space.*

D2.3 Week 3 Day 1 Group C

Wk 3 Day 1 Grp C

Bookmarks: Read (0.00-5.25):

Solve (6.29-8.45):

Make (9.57-21.30):

Retell (21.49-22.20)

R
E
A
D
I
N
G

Prior to reading

The start of the session is chaotic. Karen has an argument with Sam (group D) and then the group argue as to who is to read first. Meanwhile Roy plays with the camera and whispers 'pervert' repeatedly into the microphone. He continues to do this and distracts the group whilst Pete is reading. Karen then shouts 'Stop! It's all wrong!' and turns the camera off.

Notes

John asks if he can be first to read. Pete says no because the texts have been marked with a reading order. Pete starts reading whilst Roy and Karen are playing with the camera. All the group, including Pete are laughing. The researcher then appears and asks Roy and Karen to sit down. Pete's reading is noticeably more fluent and accurate when the researcher is present. Ned has to be prompted to read. Pete ignores him and organises the materials for the task. Ned's reading is very slow and each word is read separately. Ned struggles with 'reluctantly' and Karen helps him sotto voce. Karen's reading is fluent with good expression and phrasing.

Roy's reading is very laboured. Pete corrects 'distorted' some time after Roy tried to read it, but he is ignored. Roy works hard to self correct errors. Karen is visibly bored, stretches her arms, yawns and then waves to Sam off camera (A). When Ned finishes, Karen shouts 'It's a cat! I thought it was a dog!' John's reading is again very slow but Karen patiently helps him with 'hind'. Meanwhile Roy talks over him, trying to distract him and make him laugh.

The Improbable Cat (1)

Billy and I were at the park because we had been **evicted**. All Mum, Dad and my sister Jade seemed to think about these days was the new kitten. They were always feeding it, **talking** to it and were constantly stroking its sleek black fur. Unlike me. I can't go near cats because I'm allergic to them. So that's why we went up to the common that day.

For a couple of hours I played with Billy. I threw his ball for him and he chased after it **enthusiastically**. Then he chewed it and shook it about for a bit before **reluctantly** giving it back to me so I could throw it again. Finally, when we were both exhausted, we lay on the grass and I looked up at the sky. Dark clouds had gathered and it soon started to rain.

By the time we made it home again, the rain had started to come down very heavily. A sudden **squall tore** along the street and shook the top branches in the trees violently. Both Billy and I were soaked but, for some reason I didn't go straight inside. Instead looked through the kitchen window....

Raindrops were pouring down the window, **distorting** my view of the kitchen. **Even** so, I could see that the **kitten** was on the kitchen table, which struck me as odd because mum is usually so keen on **hygiene**. **Even odder** was the fact that the whole family were gathered around the table, not moving, just **staring at** the cat.

Through the window, I could see that their **solemn** faces were **tear** stained, as if they had all been crying. I put that down to the rain and noticed with relief that my baby brother Robert seemed cheerful enough. He was in his high chair banging his spoon on the tray-table in front of him. Next to me, Billy got up on his **hind** legs and looked through the window too. He **whined**. Odd, I thought. Billy never whines.....

Text reading

1 Pete* (W11.03/F10.05/NF7.02)

2 Ned* (W11.03/F8.06/NF13.09)

3 Karen (W10.03/F/12.00/NF13.02)

4 Roy (W7.05/F13.05/NF15.11)

5 John* (W10.00/F/7.07/NF7.02)

Red: Error Blue: corrected error

A

Throughout this recording, Group D can be heard shouting at each other as they debate their interpretation of the task. This group appear not to take any notice and make no attempt to eaves drop.

Target word: *Evicted* **Selected:** *thrown out*

Pete has gathered all the cards together in front of him. He holds his text over the cards to avoid disturbing them, with the result that no one else can see them (below).



Karen finds the word **evicted** in the text but says nothing else. Roy says *Evicted... that means thrown out*. Pete picks up this card and places it on the sheet. The group read the card Pete has placed on the sheet and nod and agree.

Target word: *Enthusiastically* **Selected:** *serious*

All members of the group bar Pete read the target sentence to themselves – Roy does this with the aid of his finger. Pete places **quickly** on the sheet. Karen negates this and John follows suit. Roy removes **quickly** and discards it. Karen says *Enthusiastically means wildly*. (There is no card marked **wildly**) She leaves her seat so that she is standing behind Pete, looking over his shoulder. (She remains there for the remainder of this part of the task). Pete is slouched forward with his arm covering the cards. Roy reaches across to try to retrieve some (below).



As she looks for the proposed word, Ned reads from the text **After it wildly...** and looks at the cards frowning. Karen selects **serious**, explaining that it is the same as **wild**, and passes it to Roy who places it on the answer sheet. Ned checks this by reading- **Chasing after it serious...** John assumes that the word has been solved and turns his attention to the next word **squall**. However, Ned's check leads Karen to change her mind and she selects **happy**. Ned negates this and proposes happily as a better fit. John, confused, says *No! Cos it would say 'A sudden happily...* pointing to the sentence containing the target word **squall**. At this, the group turn their attention to **squall** and Karen's rejected proposal **serious** still on the answer sheet.

Target word: *Squall* **Selected:** *storm*

Roy, who is still focussed on solving **enthusiastically**, proposes **loudly**. Pete,, inserts this into the sentence containing **squall**– *A sudden loud.. Loudly.. tore along.....* Roy proposes **car**. Pete picks this card up and checks it by reading the target sentence. *A sudden car tore along the street and ...shook the top of the trees ...* Karen then spots **storm**, picks it up and shows it to the rest of the group. She paraphrases the text to justify this– *A sudden storm came along the street and shook all the trees. As she does this she stretches across and places the card onto the answer sheet.*

Karen then starts to summarise the story so far– *So the people were chucked out the house right....* Pete joins in – *Then they were in the car or something...* Then Ned makes a contribution– *Then a sudden storm came up...* The group, by now, have lost any sense of the story structure as it appears in the text. Their summaries reflect the cards they chose, not the words on the page.

Target word: *Distorting* **Selected:** *blocking*

Roy reads from the target sentence, misreading **distorting** as **disjoined**, and then turns his attention to the cards without appealing for help (This suggest Roy believes that it is unnecessary to read the word in order to determine what it means.). Ned corrects his reading – *distorting*. Roy **proposes** blocking, and picks up this card, putting it on the sheet (below).



At the same time Pete proposes **worried** but this is ignored and he doesn't pursue his proposal. Ned checks **blocking** by reading the target sentence – **Blocking my view of the kitchen**

Target word: *Solenn* **Selected:** *worried*

Pete reads from the text – **Through the window I could see their John proposes happy faces**. Roy starts to agree with him and looks for **happy**, then changes his mind, proposing **worried** faces and placing this on the sheet. John quickly changes his mind to agree – *Aye, worried*.



Like Karen, Roy always picks up a card when he makes a proposal and places it on the sheet. This is not the case for Pete or John. Ned makes several checks but does not himself make any proposals.

Organising

(Rather than plan what they are going to draw, each member of the group grabs a hand full of play dough and try to think what they can make with the colours they have)

Pete [Singing] *Play dough, I'm going to make play dough!*
John - *Do you realise we're on camera and you get videoed and everyone will laugh at you?*

Pete [Looks at camera] *Play- dough!*

Karen - *I'll do the storm. I need like blue, the dark blue.*

Pete [Holding up purple] *Who needs this?* [Roy takes]

John - *I'll build.... I'll build a house... I'll do the house.*

Karen - *How do I do a storm?*

John - *I'll do a worried face.*

[At this point Rob and William from Group D arrive and try to take some of their play dough. Karen screams and they leave]

Coordinating the activities of the group

[Pete is banging the dough on sheet very hard with the flat of his hand (1). The paper eventually rips. Only two of the group has a focus- Karen is making a representation of the storm and John is making a serious face. Pete alternates between contributing to Karen and John's ideas. Roy intermittently dismantles John's work and distracts the group. Ned makes nothing but criticises and ridicules the work of Pete and John]

Karen [To Pete who is banging the table] - *Stop it!*

John - *What are you doing Pete?*

Roy - *I'll do a party. He was at a party.*

Karen [To Pete] - *Pass the green.*

John - *I'm doing a worried face.*

[Roy takes a part of John's model and makes something]

Ned [Looking at Roy laughs] *What's that? That's sick.*

Pete [To Karen] *Shall I do a thing?*

John - *I'll do a worried face.*

Pete [Showing Karen what he has made] *There. There's a storm.*

Karen - *Look, I'll make it look like a hurricane.*

Ned [Pointing to John's model] *He thinks that looks like a worried face.*

John - *Well I don't know how to do a worried face.*

Ned [Sarcastically] *That's exactly how you do it.*

[Pete reaches across and starts to alter John's model.

John angrily pushes him off it (2)]

John - *NO MAN!*

Roy [Takes something off John's sheet. John says nothing]

Roy [Holding it up] *Who's making springs?*

Karen - *There's my grass right.*

Ned [To John] *What the hell?... It doesn't look anything like that!*

Pete - *He's got a monobrow*

Ned - *He's got three eyebrows.*

John - *Shut up.*

1



2



Using drugs to disrupt the activity

Pete- *Right. Should I do a storm?* [Picks up some dough John has been working with] *Who's making piggy tails?*
Roy- Pete. [Picks up part of John's model and pulls it apart]

Pete- *He snapped the piggy's tail.*

Karen [Shouting across the room to Group D] *Sam! Sam! Do you want to cop some of this joint?* [Crumps the end of the play dough joint and holds it out to the rest of the group (3)]

Sam- *Yeah! See through skins?*

Roy- *I'll make a jaw breaker!*

Pete- *Should I do a little.... What should I do for storm?*

[Roy takes another piece of John's model, shapes it into a spiral and then drops it]

John- *What are you doing?*

Pete- *Shall I do a serious face?*

John- *NO!*

Pete [Pointing to the remains of John's model] *That's your serious face?* [Laughs]

Ned- *That looks like crap.*

[Pete starts banging his sheet with his face again]-
Look! It's demolishing it!

Using sex to disrupt the activity

[Roy is initially hidden by John's head. He shows something to Ned. Ned laughs. Roy then moves his hand to show the camera what he is doing. He is simulating sex with dough shaped to represent a penis and a vagina (4)]

Roy- *On camera!*

Pete- *You're on camera* [Looks at camera] *Caught on camera!*

Ned- *Sick you are.*

John- *He's sick isn't he?*

[Roy holds up two rings made out of play dough]

Pete- *A ring. Two rings together.*

Karen- *Urrgh. Lesbian sex! You dirty bugger!*

Pete- *No!*

Pete [Referring to his work] *He's thrown out on the floor.*

Ned- *Do a giant hand.*

Roy [Simulating sex again] *Look Ned! A purple waffle.*

John [looking at what is left of his work]- *I reckon we should start again.*

[Pete makes a phallic shape with some play dough and draws attention to it (5)]

Perceived class divisions

[The group carry on in this fashion. Towards the end of the task Karen, who is the only member of the group to finish a model of the story, makes the following comments]

Karen- *Blimey! I thought you were proper posh when I started but you aren't* [Then acts crazy, waving arms about]

Pete- *Did you actually think we were posh?*

[Karen nods]

Karen- *Especially him* [points to Ned]

Roy [Pointing to Ned] *He's got an LG cooker him!*

3



4



5

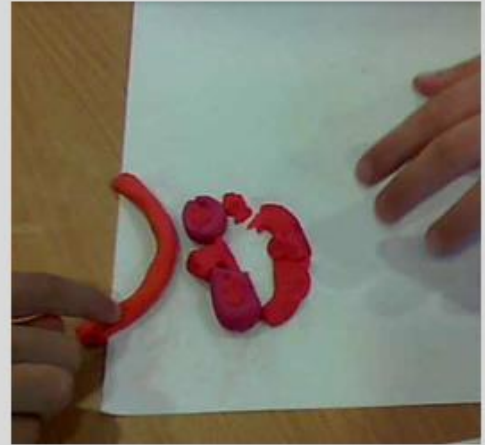


RETELL



Pete

That's the person thrown out.



John

That's the worried face. No... That's a serious face.



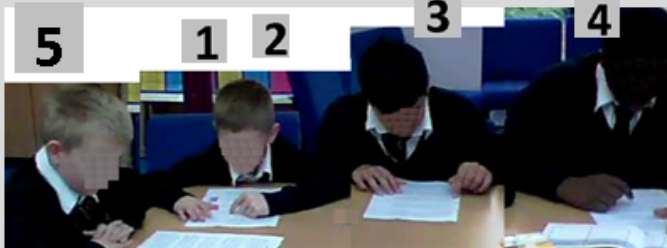
Karen

There's the storm right that's knocking the trees down, that's soaking the people.



Pete

That's the blocking thing..... The water fountain...blocking the view.

Wk 3 Day 1 Grp D		Bookmarks: Read (0.00-3.31): Make (9.24-21.30):	Solve (3.32-8.31): Retell (22.43-23.43)
R E A D I N G	Notes	<p>The Improbable Cat (1)</p> <p>Billy and I were at the park because we had been evicted. All Mum, Dad and my sister Jade seemed to think about these days was the new kitten. They were always feeding it, talking to it and were constantly stroking its sleek black fur. Unlike me. I can't go near cats because I'm allergic to them. So that's why we went up to the common that day.</p> <p>For a couple of hours I played with Billy. I threw his ball for him and he chased after it enthusiastically. Then he chewed it and shook it about for a bit before reluctantly giving it back to me so I could throw it again. Finally, when we were both exhausted, we lay on the grass and I looked up at the sky. Dark clouds had gathered and it soon started to rain.</p> <p>By the time we made it home again, the rain had started to come down very heavily. A sudden squall tore along the street and shook the top branches in the trees violently. Both Billy and I were soaked but, for some reason I didn't go straight inside. Instead looked through the kitchen window....</p> <p>Raindrops were pouring down the window, distorting my view of the kitchen. Even so, I could see that the kitten was on the kitchen table, which struck me as odd because mum is usually so keen on hygiene. Even odder was the fact that the whole family were gathered around the table, not moving, just staring at the cat.</p> <p>Through the window, I could see that their solemn faces were tear stained, as if they had all been crying. I put that down to the rain and noticed with relief that my baby brother Robert seemed cheerful enough. He was in his high chair banging his spoon on the tray-table in front of him. Next to me, Billy got up on his hind legs and looked through the window too. He whined. Odd, I thought. Billy never whines.....</p>	
		<p>Text reading</p> <p>1 & 2 Sam (W11.00/F10.08/NF13.02)</p> <p>3 Ali (W11.00/F12.00/NF13.02)</p> <p>4 Jim (W8.00/F7.07/NF9.05)</p> <p>5 Rob* (W10.09/F/12.10/ NF16.00)</p> <p>Red: Error Blue: corrected error</p>	
		<p>A 5 1 2 3 4</p> 	

Target word: *Evicted* **Selected:** *thrown out*

Rob suggests an a priori meaning for **evicted**- **thrown out**. Sam agrees - *It's when you get kicked out of your house by the council*. Rob puts the card on the sheet. Jim says - *We'll have to check it though* and starts to scan his text. Sam distracts him by motioning to something he has in his hand, asking Jim if he has any money (below). A short discussion ensues, Jim hands over some money. Sam gives him something that Jim hides under his jumper. Meanwhile Ali reads the first two sentences of paragraph 1 to check **thrown out** and correctly establishes that it doesn't fit the sense of the story. Sam, standing, then makes up story that would match his selection of thrown out - *They were evicted and then they went to the park whilst they were moving out*. Ali is about to challenge this when Sam moves the agenda on to the next word **enthusiastical-**ly, thus minimising this effort.



Target word: *Enthusiastically* **Selected:** *happily*

Whilst the others are working on **evicted** Sam, still standing, says *Enthusiastically, that means happy and that*. Rob says he agrees and places **Happy** on the answer sheet. Ali reads the target sentence and inserts **happy** into the text. He correctly identifies that it doesn't make sense grammatically. Rob proposes **quickly** which is a better fit syntactically. Sam negates this, repeating his a priori definition of **happy**, acting this out and waving his arms below). Rob sees the correct selection **happily**, overlooked up to this point because it was not with the other cards. Rob discards **happy** and places **happily** on the sheet. Ali checks this by reading the text and agrees.



Target word: *Squall* **Selected:** *storm*

Ali searches for information by reading the target sentence. The others gather round his copy of the text, ignoring their own copies (below). Ali proposes **storm**, picks up the card and then paraphrases the text - **a sudden storm tore along the street**. Rob negates this and proposes **car**. Sam agrees and restrains Ali, stopping him placing storm onto the answer sheet. Rob's proposal of car derives from a misreading of **tore**, read as **towed** - *Cars get towed* shouts Rob as he takes Ali's card off him. *Never agree with what I say,* says Ali. Ali carries out a check and establishes that **car** does not fit. The boys laugh and Sam points to Ali's text and reads - **a sudden storm tore along the street and shook the branches**. Ali explains that **shook the branches** negates the choice of **car**. Rob then proposes **wind**. Ali agrees that this is also valid. Sam picks up the card marked **storm**, proposes it. Ali takes it from him and places it on the answer sheet.



Target word: *Distorting* **Selected:** *blocking*

Picking up a card, Jim proposes soaking, which Ali checks and rejects. Ali and Jim then simultaneously propose spoiling and blocking respectively. They each hold a card over Ali's copy of the text as he checks these. (below).



Ali insists that **spoiling** is right, Sam sides with Jim and Rob says *It could be any of them*. Jim tries to justify blocking- *If it's blocked you can't see* and holds his hand in front of his face (below).



Ironically, this should discount **blocking** because the character is able to see his family through the window. This is missed because the checks Ali carries out do not extend beyond the target sentence. A stalemate ensues because the strategy of rereading the target sentence fails to separate the competing selections – **spoiling** and **blocking**, hence there is a deferment and both cards are placed on the answer sheet. Ali laughs when he sees this. *You can't do that!* Rob says *We can!* Sam checks this with Teacher A who confirms that the group can decide later. *Yeah*, says Sam to Ali, *Use your head*. Ali repeats his earlier complaint – *Never agree with what I say. It's three on one!*

Later in the task, Sam discards the card marked spoiling whilst the others are distracted.

Target word: *Solenn* **Selected:** *worried*

As Ali is reading, Rob and then Jim propose **worried**. Rob says *It could be serious or worried*. Ali proposes **serious**, and inserts it into the target sentence. However he misreads **tear** as **tare**. Rob corrects him. Ali picks up **serious** but, again Sam restrains him. *You don't cry if you're serious, you cry if you're worried!* Ali drops the card and waves his arms in despair – *Don't agree with what I say*. Rob picks up worried, and Ali challenges him, asking where it says that the family had been crying. Sam thrusts the card at Ali's text and shouts *Tear stained faces!* Rob places **worried** on the sheet and then Sam says *This one's blocking*, casting Ali's card **spoiling** aside. Ali wearily rubs his hand across his eyes and says *I swear....*



Haggling

The group are waiting to be given some materials with which to reconstruct the story. Sam walks off to sell some sweets to Karen (Group C). There then follows a discussion about the cost of the sweets and the fact that one of them has been on the floor.

Appeal to the Teacher A

At this point Ali notices that Sam has discarded his candidate for **distorting** – **spoiling**. He appeals to Teacher A who is standing near the group to encourage them to focus on what they are supposed to be doing. *Wouldn't it be spoiling miss?* The others reassert their preferred candidate **blocking**. Sam places **spoiling** on the answer sheet alongside **blocking**. As he does so he says *If we got it right we'll ram [spoiling] up your bum*. The teacher tells them to make a choice and Ali complains – *Yeah! Cos they don't listen to me. It's three on one*. Jim is now listening to music on his phone and is told to turn it off. (1)

Organising

Sam and Rob distribute paper and play dough so that each member of the group has something to work with. Ali says *Where's the story – I want to read the story again*. Teacher A tells him they have to reconstruct the story from memory. Ali says – *But we didn't understand the story!*

Making

Sam says he'll make the house. Rob says he'll make a window. Jim says they should draw first. Jim and Ali then help Sam (2). Then Sam takes his share of the play dough off the house they have been making.

Prompting

The researcher prompts the boys warning that they are running out of time. Ali asks what the story was about and repeats that he didn't understand it. Sam says *I did*. Ali asks him to explain the story but Sam refuses. Ali says he'll copy what Sam does.

Division and conflict

At this point the group splits into two. Rob and Sam start to reconstruct the scene in the kitchen. Sam says – *We should do a serious face*.

Meanwhile Jim and Ali experiment with the play dough, using it to model a Hitler moustache and a cigarette (3). When they are challenged by Sam Ali suggests to Jim that they make a serious face. Sam overhears this and accuses them of copying. Ali says *We're all in this together*. Sam says *We're not!*

Towards the end of the task Sam tells Jim to draw a park. Jim stops messing about with the play dough and immediately starts drawing (4). The boys are warned at this point that they have 2 minutes left. At this point Ali starts to make a house. Jim wants to help him and takes some dough from Sam's reconstruction. Sam storms off and sits away from the group (5). He later joins the group and repairs the damage.

1



2



3



4



5



RETELL



The park



house



serious
face

playing



window


rain

(Filmed by Teacher A)

By this time the other groups have finished, have packed up and are preparing to leave. Given the problems the group had in completing the task on time, Teacher A opted to film the boys' retell. As she started filming Jim and Ali were busy trying to construct a contribution to the retell (top). They seem unconcerned as to their lack of preparedness. Despite the presence of the teacher, Ali continued to misuse the play dough (middle).

In contrast, Sam is anxious that things go well and is busy adding features to his and Rob's recreation of the story (bottom left). When the teacher starts to film him he says *No! Not yet!* Sam does the retell for the group:

Well he's playing in the park with someone and he's thrown the ball and someone's like enthusiastically getting the ball and taking it back, right, but then when it starts raining, wait there... [Adds raindrops to the image] ...Then he goes home and looks through his mam's window [Sam pauses to make a window] Jim adds that it's the kitchen window the boy looks through. He looks through his mam's window and he sees that face... the serious face... And then that's it. Rob then adds Cos they've been evicted. T he teacher then says Is that it? Have you nothing more to say? Ali shouts Solamen! [solemn], but Sam indicates that the retell is over.

Wk 3 Day 2 Grp A		Bookmarks: Read (0.00-2.21): Make (8.33-18.00):	Solve (2.22-3.52): Retell (18.00-18.30)
R E A D I N G	Notes	<p>The Improbable Cat (2)</p> <p>My family is changing. Not in an obvious way- you know, growing a beard or dying their hair. The changes are subtle and I am the only one who seems to notice. To understand what I mean I'll have to tell you what my family were like before the cat came. 1</p> <p>Normally Dad liked everything to be tidy. His shirt collars were always pristine. Trousers ironed and shoes polished. Every day when we got back from school he'd ask Jade and I how our day had been and help us with our homework. No matter how tired, he always took an interest in his kids. 2</p> <p>Mum had been working part-time so that she could look after Robert. This meant that she always seemed to be rushing about- cooking; shopping; going to work; coming back from work. But, like Dad, she was always very particular about things. Tea was always ready by six and our lunches were always ready for us to take to school in the mornings. 3</p> <p>Jade, on the other hand, was always grumpy. My sister usually seemed to find something to complain about. Jade is the sort of person who wants something until she gets it. Then she decides she doesn't want it- she wants something else instead. And in the mornings, when everyone was still waking up, she'd come down the stairs like a ton of bricks. 4</p> <p>Now the cat has arrived, everything is different. When Dad gets home from work he obsessively fusses over the cat and ignores everyone else. Mum has started having time off work so that she can buy things for the cat but not for us. Sometimes we have to wait until eight or nine o'clock before we get anything to eat. Sometimes we don't get anything at all. As for Jade, she's always so calm these days- slowly stroking the cat and smiling quietly to herself. 5</p>	
	<p>Fay's reading is fluent and accurate, even though she reads 'means' for 'meant'. Betty reads the first sentence of paragraph 4 with excellent phrasing. But then the reading becomes awkward again suggesting that she was re-hearsing the first sentence whilst Fay was reading. The errors she makes are simple, suggesting she has lost the sense of the text and is unable to anticipate words through an analysis of grammar. For example, she is thrown by the substitution of 'is' for 'was' and omits 'instead' because the word did not fit the grammar of the sentence as she intended it.</p>		
	<p>The speed at which Jill tries to read the final paragraph causes her real problems. She omits most of a sentence and this derails the next sentence which she reads as '...we have to wait until eight or nine o'clock before we get something to eat'. Here 'sometimes' at the beginning of the sentence is substituted for 'anything' at the end of the sentence. Neither of the other two girls intervenes or corrects her when she has finished.</p>		
		<p>Text reading</p> <p>1 & 4 Betty* (W11.09/F16.00/NF16.00)</p> <p>2 & 5 Jill (W11.00/F12.00/NF8.06)</p> <p>3 Fay (W10.06/F9.08/NF13.02)</p> <p>Red: Error Blue: corrected error</p>	
		<p>A</p> 	

Whereas yesterday Jill took responsibility for manipulating the cards, today Betty takes that role. The camera has been inadvertently positioned so that the materials cannot be seen.

Target word: *Subtle* **Selected:** *quickly*

Betty's a priori meaning **big** derives from Jill's misreading of **subtle** as **substance** (**substantial**). However, there is no card marked **big**. Betty suggests **quickly** which matches the sense of the story—the cat quickly affects a change in the behaviour of people. But the selection does not fit grammatically. The group's attempts to check **quickly** are confused by a member shifting the focus to 'like a ton of bricks' for which they are proposing 'loudly' (see below). The cross talk prevents the weakness of **quickly** from being detected and it is selected. Throughout this episode the group's gaze is riveted to the cards and they make little or no eye contact and only glance at the text occasionally (below).



Target word: *like a ton of bricks* **Selected:** *loudly*

Whilst Jill and Betty are discussing quickly (above) Fay talks across them and says that **like a ton of bricks** means **loudly**. Jill complains at being interrupted – No! Fay persists. *If you come down stairs thud thud thud* and emphasises each thud by banging her hand on the table. The others ignore her.

Later, when Betty has solved **particular about things**, Fay stands up, leans over and tries again. *I think a ton of bricks is loudly* she says, pointing at the card (below). Again Betty and Jill ignore her.

Jill draws Betty's attention to ton of bricks after the group solve **pristine**, apparently unaware that Fay has already solved this. Betty says the answer is **loudly** and places this card on the answer sheet.



Target word: *particular about things* **Selected:** *organised*

Despite the fact that Fay read this paragraph Betty works on her own, repeating **organised** to herself, then announcing to the others *The middle one's organised*. Betty moves on to solve **pristine**. Jill, uncertain, says *So the middle one's organised?* and places the card on the answer sheet. No one confirms this for her or explains the choice.

Target word: *pristine* **Selected:** *clean*

Betty checks her own proposal *His shirt collars were always white*. Fay says 'Where's that one?' and Jill points to the text 'Here'. Betty then says it might also be **clean**. Fay, still standing, says *Put clean* and Betty does so.

Target word: *obsessively* **Selected:** *constantly*

Betty focuses the group but misreads the word as **obviously**. Jill corrects her and Betty grins and shrugs. Jill says *It means he's obsessed with it* and then Fay, still standing, proposes **constantly**. Jill picks up constantly whilst Betty reads to herself checking the accuracy of this. Fay notices this and repeats her definition *You get obsessive you're constantly....* Betty says *Uh Huh* and places the card on the answer sheet.

Waiting

Whilst the girls are waiting for materials, they are told by the researcher that one of the cards they have selected is wrong and asked if they can spot which it is. [They wrongly picked quickly for subtle].

Jill - *White*

Fay - *Aye, but it would be white if it was clean....* [Fay mis-reads subtle] *Suitable... that means it suits you.*

Betty [Tries 'good' for pristine] *Were always good....*

Fay - *His shirt collars were always clean.*

Jill - *It's got to be one of them* [taps fingers impatiently on cards]. *Try which one goes the best. His shirt collars were always....*

Betty - *His shirt collars were always clean; His shirt collars were always cotton; His shirt collars were always white.*

Jill - *It's white. It's got to be white.*

Betty - *It's the only one that actually makes sense.*

Fay - *I'll get that man.*

[Teacher B appears with Fay with the materials the girls will need for the task]

Clearing a space (1)

Betty clears a space on the table. The cards that the girls selected remain in view throughout but are ignored. The girls work independently and in silence. There are intervals where their activity is refocused. This, in the main, is led by Jill. These discussions are summarised below:

Allocation of jobs

Jill - You [Fay] can draw the cat and you [Betty] can draw the dad coming home from work

Renegotiation of jobs (2)

Fay - *We need the little baby*

Jill - *No! We need the dad!*

Fay - *There's the cat, the dog...*

Jill - *No, but we need the dad!*

Fay - *The dad as well*

Betty - *The cat*

Jill - *We need the cat.*

Fay - *Betty... we need the dad and emm....*

Betty - *What will I draw?*

Jill - *Draw a body and then we'll fill it with play dough*

Fay - *Shall I do the dog?*

Jill - *With a pen draw a body. Then cover it with play dough....*

So start drawing a body right.

Betty - *I'm making his pants*

Jill - *You draw the dad*

Fay - *ME??*

Betty - *I'm making his pants*

Cat and dog (3)

Betty - *What colour's the cat?*

Jill - *We had black yesterday. It's black. We've got no black....*

Betty - *What colour's the dog?*

Fay - *Brown. It could be anything. It doesn't say what colour it is.*

Sister (4)

Jill - *We need to do the sister.... I'll do the sister.*

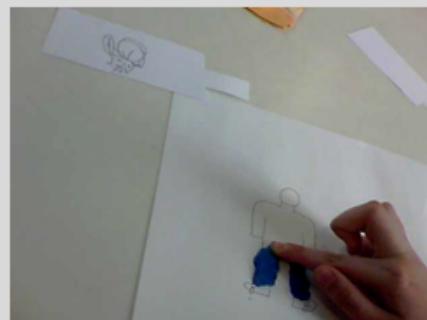
Betty - *What colour hair's Jade having?*

Jill - *Blonde.... I'll do it here.*

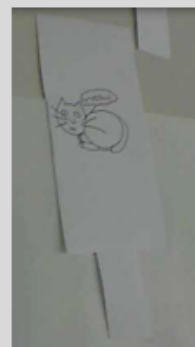
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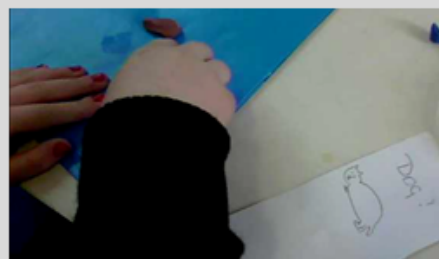
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3



4



RETELL



(Filmed by Jill)


Betty conducts the retell by pointing to each part of the group's reconstruction in turn:

That's the boy [points] and that's his sister [points]. His sister's called Jade... They're the raindrops that's on the window [points]. That's the dog [points] That's the cat [points] and that's the boy.

[Fay off camera sotto voce] They take more notice of the cat

[Betty continues] And they take more notice of the cat than they do the boy.... [Betty stops looking at the reconstruction and looks at Fay]

The boy's allergic to the cat and the changes aren't that big cos it's only the boy that realises. [motions for the filming to stop].

Wk 3 Day 2 Grp B		Book marks: Read (0.00-2.52): Make (6.50-18.37):	Solve (3.10-6.38): Retell ((New file) 0.00-2.18)
R E A D I N G	Notes	<p>The Improbable Cat (2)</p> <p>My family is changing. Not in an obvious way- you know, growing a beard or dying their hair. The changes are subtle and I am the only one who seems to notice. To understand what I mean I'll have to tell you what my family were like before the cat came.</p> <p>Normally Dad liked everything to be tidy. His shirt collars were always pristine. Trousers ironed and shoes polished. Every day when we got back from school he'd ask Jade and I how our day had been and help us with our homework. No matter how tired, he always took an interest in his kids.</p> <p>Mum had been working part-time so that she could look after Robert. This meant that she always seemed to be rushing about- cooking; shopping; going to work; coming back from work. But, like Dad, she was always very particular about things. Tea was always ready by six and our lunches were always ready for us to take to school in the mornings.</p> <p>Jade, on the other hand, was always grumpy. My sister usually seemed to find something to complain about. Jade is the sort of person who wants something until she gets it. Then she decides she doesn't want it- she wants something else instead. And in the mornings, when everyone was still waking up, she'd come down the stairs like a ton of bricks.</p> <p>Now the cat has arrived, everything is different. When Dad gets home from work he obsessively fusses over the cat and ignores everyone else. Mum has started having time off work so that she can buy things for the cat but not for us. Sometimes we have to wait until eight or nine o'clock before we get anything to eat. Sometimes we don't get anything at all. As for Jade, she's always so calm these days- slowly stroking the cat and smiling quietly to herself.</p>	
		1	
		2	
		3	
		4	
		5	
<p>May's reading is slow and steady, with little expression. She works out 'subtle' by sounding it out. It is unlikely that she knows what the word means or if this is how the word should be pronounced.</p> <p>Sue's reading is likewise slow and careful- she reads 'you' for 'we' but self corrects. Sue's intonation does not always match the punctuation.</p> <p>Lily's reading is slightly more fluent. She omits 'was' but self corrects.</p> <p>May's reading of paragraph 4 is markedly more expressive and fluent, suggesting that she has been rehearsing.</p> <p>May and Sue are noticeably sitting together separately from Lily and act as a team (A). This is suggested when Sue struggles with 'obsessively' and May helps her by suggesting, wrongly, that the word is 'obviously'. Later Sue misreads 'quietly' as 'quickly'. This time May helps with a correct suggestion and this error is fixed. In each case Lily does not intervene despite being the self-appointed leader of the group.</p> <p>Jim from Group D has been monitoring the work of the group. This seems to have put a stop to the giggles of the previous day and focussed the group on ensuring an accurate read through.</p>		<p>Text reading</p> <p>1 & 4 May* (W11.09/F8.06/NF13.09)</p> <p>2 & 5 Sue (W9.06/F7.07/NF7.07)</p> <p>3 Lily (W9.06/F12.00/NF13.02)</p> <p>Red: Error Blue: corrected error</p>	
A			

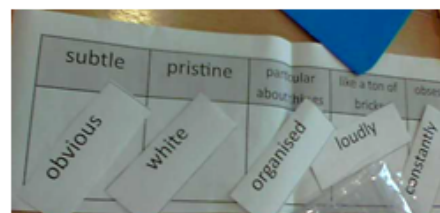
Lily takes the cards from the envelope and Sue makes to take them off her. Lily moves the cards away from Sue's hand and starts laying them out on the table in a grid, asking May if she can see them. All the girls are laughing.

Target word: *Subtle* **Selected:** *obvious*

Lily says *Right!* And slaps her hand onto her copy of the text. She reads the target sentence. Sue follows her, but May's attention is focussed on the cards and she leans across to get a better view. Lily points to each card in a random order, reading each out. Meanwhile May and Sue's attention is focussed on their copies of the text. May then reads **The changes are obvious and I am the only one who seems to notice.** May looks at the card and says *It could be obvious.* Sue picks up the card and starts to place it on the answer sheet. *Wait there!* Orders Lily and takes the card off Sue. Sue looks offended. Lily holds the card against the text and reads the target sentence, misreading **obvious** as **obvulous**. May corrects her and both laugh. Sue does not laugh. Sue picks up **organised** and proposes this as a solution. May and Lily confer and agree that it doesn't fit. May suggests they try *some more stuff*. Lily agrees, putting **organised** to one side. Lily says *It can't be...* and then starts listing options. May interrupts by proposing **consciously** (aka **constantly**) and picks up the card, then quickly changes her mind and replaces it. Lily asks for a vote on **obvious**, all agree and it is placed on the sheet.

Target word: *Pristine* **Selected:** *white*

Lily call the group to order- *Right, next one is...* and scans the text. Sue beats her to it and reads the target sentence **His shirt collars were always pristine.** Lily extends the search- trousers **ironed** and shoes **polished**. May picks up **clean**. Before she can speak, both Sue and Lily propose **white**- his shirt collars were **always white** says Lily, looking at May but pointing at the text. Sue picks up **white**. *Or clean!* says May holding her card up next to Sue's (below). Sue says **White** and turns to Lily for support. Lily takes both cards off the girls and places them next to her copy of the text. May says *Just leave them till later*, but Lily tests each one out by inserting it into the target sentence. Afterwards, May and Sue agree that **White** is the right response. As Lily places the card, Sue says *Yeah.. Trousers always ironed.*



Target word: *Particular about things* **Selected:** *organised*

Lily claps her hands excitedly- *I think I might know this one* and then reads out the target sentence. May and Sue both place their hands on the card marked **organised** at the same time. Lily has her hand on the card **careful** but does not propose it, thus minimising the potential dilemma. Instead she says *'Yeah'* and May places **organised** on the sheet. *Right we'll try it,* says Lily and reads out the target sentence again. The group agree that this is the correct solution. Whilst Lily was doing this, May took the card marked **loudly** and placed it next to her copy of the text.

Target word: *Like a ton of bricks* **Selected:** *loudly*

Lily starts to read the target sentence when May interrupts- *I think that one's loudly.* Sue scans the text so she can check it. *Wait!* Orders Lily *You're going too fast!* Sue carries out her check and confirms that **loudly** fits, holding the card for Lily to take. Lily ignores her and carries out her own check. Sue looks visibly irritated and stops her, showing her the card. Lily ignores it and starts reading the other cards in a random order to find an alternative. She finishes *Is there anything else through...* Sue frowns *Like a tin of bricks is like really loud.* Lily agrees and points to the answer sheet signifying that Sue can now place it.

Target word: *Obsessively* **Selected:** *constantly*

Right! Says Lily but before she can carry out a search of the text, May proposes **constantly**. Lily again insists on carrying out her search, reading the whole sentence, misreading **obsessively** as **obviously**. Sue picks up **constantly** and again proposes it. Lily starts reading from the beginning of the paragraph to check that this option fits, using her finger to guide her finger. Meanwhile Sue shakes the card impatiently. When she has finished, Lily gives permission for Sue to place the card on the sheet..

Feedback

Whilst the girls are waiting for materials, May reads from the text, checking the selections the girls have made. Jim tries to feed back his observations to the group (1).

Jim- *Girls, good! That was brilliant.... but you didn't seem to work it out properly.*

Lily [exasperated] *Oh Jim!*

Teacher A arrives with materials for the girls and Jim retreats.

Focusing and organising

Sue- *Is there a dog in this story?*

Lily- *No, cos it hasn't mentioned the dog.*

Sue- [Takes a copy of the text to check this]

Jim- *There is a dog... he threw the ball.*

Lily holds up a copy of the text and points to it. She raises her voice and tells Jim there is no dog and then slaps the text down forcefully on the table (2).

Locating work in the text

Sue- *I haven't got anything to draw*

[May gets a copy of the text and inspects it (3)]

Jim- *What are you doing?*

Sue- *We're drawing.*

Jim- *Yes but what ideas... read the story.*

[May tells Sue to draw Mum]

Lily- *I'm dad. A nice smart shirt.*

Division

Up to this point their girls have worked on separate parts of the reconstruction. May gets out some play dough and lays it out onto a sheet of paper. Sue then joins in. The girls are not making anything, just organising the colours. From this point on the group is divided between May/Sue and Lily (4). Lily finishes her puppet of the father:

Lily *Right! But there might be someone else in here!*

[Lily then inspects her copy of the text]

May- *What about the boy?*

Lily- *The boy's sister comes down the stairs Thump!*

Thump! Thump! [Stamps her feet]

May- *Just draw the sister, cos the cat's making them change.*

Sue- *Yeah! Draw the sister.*

Negotiation of collaboration

Lily- *What are you doing with that?*

Sue- *I don't know*

Lily- *Right. I'm making the table. Can I make the table?*

Sue- *No! Let me make the table.*

Lily- *I'll make the chairs.*

May- *What shall I make?*

Sue- *You can make anything*

[May consults the text]

May- *I'll make the dinner.*

Lily- *Make a banana, cos Jade likes bananas!*

1



2



3



4



RETELL



boy



cat



sister



dinner table



(Filmed by Jim)

Before the retell start the girls each take a puppet with which they will act out the roles in the story- dad, mum, cat, sister.

Sue- *Dinner time everybody*

Lily- *No that's not how the story went. Dad come home from work [dad puppet is stroked against the cat puppet.] Pussy! Pussy!*

Jim- *That sounds wrong.*

Lily [holding puppet of sister] *WHERE'S BREAKFAST?*

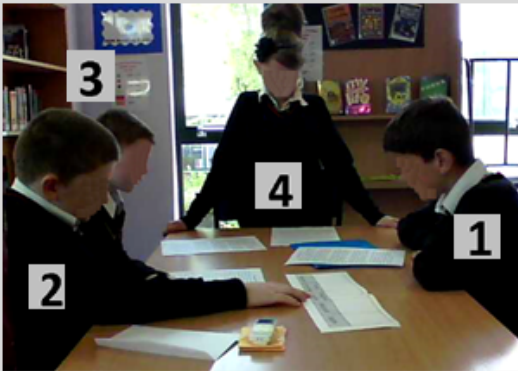
[May and Sue hold puppets of mum and dad- they continue to stroke the cat, ignoring the sister]

Sue [Holding the puppet of the boy] *Sometimes I have to wait until nine o'clock to get some dinner- a disgrace!*

Lily [holding the dad puppet] *and when dad gets home he doesn't help us with our homework anymore. All he does is stroke the cat.*

Lily [as cat]- *Meow!* (spooky laughter)

Lily- *Sometimes we don't get our tes cos mum and dad forget about us*

Wk 3 Day 2 Grp C		Bookmarks: Read (0.00-3.45): Make (8.50-17.50):	Solve (3.46-7.14): Retell ((New file) 0.00-2.01)					
R E A D I N G	<p>Notes</p> <p>Sam from Group D helps the group to set up the camera. Karen asks if the camera is recording before checking her phone. John insists that he is the first to read and starts whilst the others are distracted. When he reads <i>beard</i> as <i>bread</i> no one seems to notice. All through his reading Karen continues to rummage in her bag. Pete and Ned follow the text</p> <p>Pete's reading is slow and he often seems to be wrong footed by the punctuation, with the result that he emphasises pauses where there are no full stops. Despite his careful approach he substitutes <i>know</i> for <i>how</i>, but self corrects.</p> <p>Ned's reading is very quiet. He reads pairs of words or short phrases together, with pauses in between for him to check the next section of text to be read. Pete ignores the text and busies himself organising the task materials. John follows the text as does Karen who has put her bag away and is standing up (A).</p> <p>Karen's reading is fluent, apart from two pauses at and. She reads (still standing) with little expression but, unlike the others, is able to change her intonation to mark sentence boundaries and clauses.</p> <p>Karen remains standing as John reads the final section. Unlike Ned, it is very likely that she notices that <i>obsessively</i> has been read as <i>obviously</i>, but does not intervene. Ned would probably have noticed that <i>slowly</i> is misread as <i>always</i> but also does not intervene.</p> <p>Pete, meanwhile ignores the reading and concentrates on solving the target words.</p>	<p style="text-align: center;">The Improbable Cat (2)</p> <p>My family is changing. Not in an obvious way- you know, growing a beard or dying their hair. The changes are subtle and I am the only one who seems to notice. To understand what I mean I'll have to tell you what my family were like before the cat came. 1</p> <p>Normally Dad liked everything to be tidy. His shirt collars were always pristine. Trousers ironed and shoes polished. Every day when we got back from school he'd ask Jade and I how our day had been and help us with our homework. No matter how tired, he always took an interest in his kids. 2</p> <p>Mum had been working part-time so that she could look after Robert. This meant that she always seemed to be rushing about- cooking; shopping; going to work; coming back from work. But, like Dad, she was always very particular about things. Tea was always ready by six and our lunches were always ready for us to take to school in the mornings. 3</p> <p>Jade, on the other hand, was always grumpy. My sister usually seemed to find something to complain about. Jade is the sort of person who wants something until she gets it. Then she decides she doesn't want it- she wants something else instead. And in the mornings, when everyone was still waking up, she'd come down the stairs like a ton of bricks. 4</p> <p>Now the cat has arrived, everything is different. When Dad gets home from work he obsessively fusses over the cat and ignores everyone else. Mum has started having time off work so that she can buy things for the cat but not for us. Sometimes we have to wait until eight or nine o'clock before we get anything to eat. Sometimes we don't get anything at all. As for Jade, she's always so calm these days- slowly stroking the cat and smiling quietly to herself. 5</p>						
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<p>A</p> 								

The group solve the words more or less in the reverse order to that in which they appear in the text – starting at 5, then 1, 4, 3, 2. Karen again is the only group member who stands throughout.

Target word: *Obsessively* **Selected:** *constantly*

Pete says *You know the last one, do you think it's constant?* As he says this he places the card on the answer sheet, but continues to hold it in his hand in recognition that it might be wrong. All of the group turn their attention to the text and check this proposal. They read silently. Pete appeals *Who thinks this makes sense?* but directs this appeal at Karen, who is the only one standing (below).



Karen (who was unwell that day) shrugs. John suggests that Pete *Read it [the target sentence] once*, but Pete ignores this suggestion. Pete says *We'll put it there just for now and we'll....* John finishes the sentence *Check later*. Pete removes his hand from the card. The group do not subsequently return to this proposal and check it.

Target word: *Subtle* **Selected:** *obvious*

John reads the target sentence aloud to himself – **The changes are suitable (subtle)**. Meanwhile Pete is sorting through the cards and Karen looks on. John proposes **constantly**, which is already on the answer sheet, and picks this card up (below). Pete does not protest at the removal of 'his' card.



Karen negates this and John says *Could be*. Karen proposes *The changes are different*. (**Different** was not marked on any of the cards, suggesting that 'changes' was used as the stimulus for her proposal, rather than an a priori definition or card that was in view).

John replaces **constantly** on the answer sheet. Karen proposes **quickly**, which is available, but is distracted by **loudly**, which she proposes for **like a ton of bricks**, see below. At this stage no selection has been made for **subtle**.

Two and a half minutes later, Ned again reads the target sentence aloud to himself – **The changes are....** Pete is reading a different part of the text – **His shirt collars were always obvious**. Pete then proposes **obvious**. Karen checks this by inserting it into the correct target sentence – **The changes are obvious** and approves the selection. Pete places the card on the answer sheet.

Target word: *Like a ton of bricks* **Selected:** *Loudly*

Karen says *I know that that one, like a ton of bricks, is loudly*. Karen leans across the table to pick up the card and put it on the answer sheet. Pete challenges this and says *Could it not be heavily?* John supports him – *Could be heavy*. (There is no card marked **heavy** or **heavily**). Karen says *But it's not though, cos a ton of bricks is dead loud*. Meanwhile Ned check constantly by reading the text – **Constantly fuses**... (His misreading of **fuses** for **fusses** means that he probably isn't able to confirm or deny the match of this word to obsessively). Pete then decides that there must be a card missing. He searches for the missing card and does several counts of the cards, pointing to each with his finger to check that this is not the case (below).



Pete's count of the resources takes some time as he is convinced there should be 16 cards, despite the fact that there are 5 problem words in the text and 16 does not divide by 5. Karen calls over a teacher who tells the group to *Accept what's there*. The group move on to **particular about things**, see below. The disputed proposal **loudly** is left in place.

Target word: *Particular about things* **Selected:** *organised*

Pete gives a frustrated shake of his hands – *Right... partic- liar about things, what do you think that's about?* Karen mumbles a reading of the target sentence to herself that is barely audible. John also inspects his copy of the text. Karen proposes **forgetful** [sic] and then **organised about things**. Pete picks two cards up, one of which is **organised** (below). John takes this card from him and places it on the answer sheet. Karen confirms the selection by paraphrasing – *Like she's always organised or something, and laughs*.



Target word: *Pristine* **Selected:** *white*

Pete again focuses the group. *Right! What do we think pris...* (Pete is unable to read the target word). Karen proposes **obviously** (again, none of the cards are marked with this word, although **obvious** is available). John starts to read the target sentence aloud to himself. John proposes **white**, then negates this and proposes **clean**, snatching up this card. Unlike Roy or Karen, he does not immediately put the card on the answer sheet but holds it against his copy of the text so that it can be checked (below).



John seems to change his mind – *Ah no! can't be... Could be...* and then sorts through the remaining cards, still holding onto **clean**. Pete repeats Karen's proposal of **obvious**. John finds the card **white** and proposes it again and Karen agrees – *Yeah! His shirt collars were always white*. It is only then that John places **white** on the answer sheet.

(The group is being observed by Eve)

Organising the task

Teacher A gives the group some card and pens, telling them that they need to make some puppets that they can move around to retell the story (1).

Pete - *What characters?*

Teacher A - *The characters in the story*

John - *I'll be the man.... The boy.*

Pete - *I'm the kitten.*

John - *I'm the boy.*

Karen - *I'll be the white shirt.*

John - *The white shirt?*

Pete - *I'm the kitten.*

[Teacher C comes round with some play dough and places it next to Pete]

Karen - *I'll do the play dough stuff*

Pete - *Nah! Everyone's doing it.*

Karen - *No man!* [Stands up and gets the dough]

Monitoring and feedback

John [Shows off his drawing] *There's my little boy.*

Pete [Takes some play dough from Karen's sheet of paper (2)] *Shall I do the kitten?*

Karen - *Just leave them!*

John [Picks up Pete's drawing and shows it to everyone] *There's Pete's kitten!*

Pete - *You got a problem?*

[Pete is leaning across the table so he can make his model on the corner of Karen's sheet of paper. Unseen, John adds to Pete's drawing (3)]

Karen [Inaudible]... *fucking bad mood.*

Pete - *Caught on camera!*

Karen - *So?....* [Pushes Pete away and yells] **GET OFF MAN!**

Jim [From across the room]- *Shhhh!*

Karen - *Shut up Jim you little freak!*

John - *Who's doing the dog?*

Pete - *Ned*

Ned - *No I'm doing the man.... The dad!*

John - *Let's see.... I'm the boy!*

Ned - *No, I'm the dad.*

John passes Ned's puppet to Karen. Pete is banging a piece of dough flat with the palm of his hand. Karen puts her head in her hands (4)]

Ned [Inaudible]

Pete - *I'm not an idiot.* [Adds to his model]

Karen - *What's that?*

Pete - *It's going to be the kitten.*

Karen - *It looks nothing like a kitten.*

Pete - *Well you make one!*

Karen - *I will* [Picks up some dough]

Ned [Picks up Pete's model] *It needs a tail you know!*

Pete - *Shall I draw a proper cat?*

Karen - *You can't draw clearly*

John - *He needs a tail.*

[John adds to Pete's drawing. Pete sees him but says nothing]

Karen - *All she said is hospital or something.*

1



2



3



4



Probing sensitive topics

Karen [To John] *Do you live with your cousin?*

John - *Nah!*

Karen - *She was telling me this morning.*

John - *Did she say why?*

Karen - *No.*

John - *She's not supposed to.*

The group's [lack] of preparation for the retell

[Eve warns the group that they must be ready to do their retell in three minutes]

Pete - *So?*

Karen [Claps her hands to announce her model is finished] *Meow!*

Pete [To Ned] *Who's is better? Mine or hers?*

Ned [Inaudible]

Karen [Yelling] *It looks like a dinosaur man!*

John [Showing off his puppet] *I've done a teenager drinking.*

Karen - *Who smokes here?* [To Ned] *Do you smoke?*

John - *Eesh. Let's go tell the teacher.*

Karen - *So?*

Pete - *Do you smoke?*

[Karen nods]

Pete - *I saw you next to the door*

Karen [Nods, turns to John] *Do you smoke?*

John - *NO!*

Karen [Notices camera] - *Shit. I don't smoke.*

Pete - *You start rehearsing the right words.*

[John and Ned share a joke, Karen bangs the plastic tub loudly on the table]

Pete [Pointing at the card 'organised' on the answer sheet (5)] *We need to get organised!*

John - *Where's the dog? Who's doing the dog?*

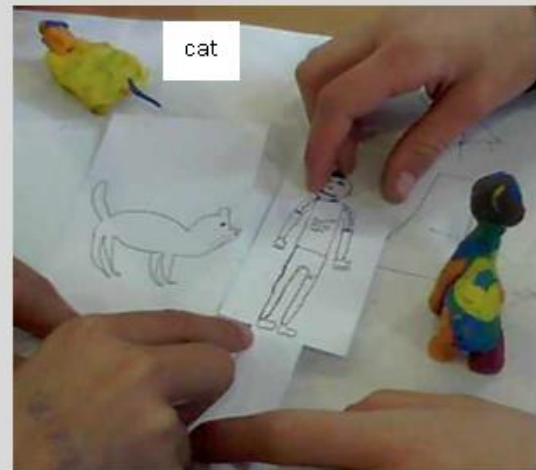
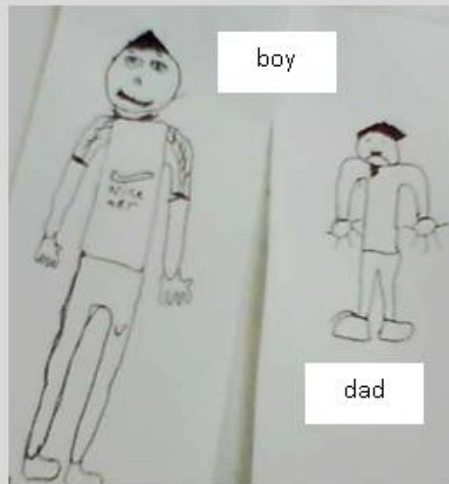
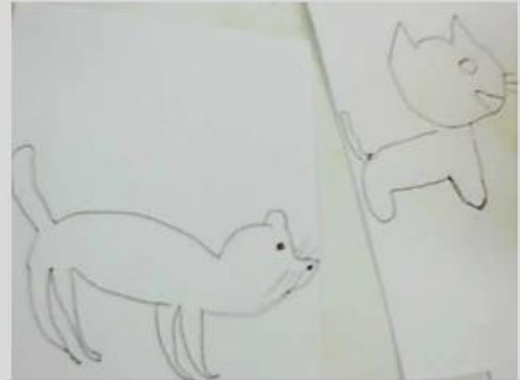
Karen [Pointing to Pete's model of the kitten] *That's the dog and that [pointing to her model] is the cat.*

[Researcher appears and tells Eve to start filming]

5



RETELL



Karen - *That's the dog.....*

Ned - *Don't look at me!*

Pete - *There's the cat. Where's Ned's little man?*


Eve - *What else? What was in the story?*

Pete - *Woof!*

Eve - *You've got to tell the story you know!*

Karen - *Right. The dog and the boy looked out.... looked in the window. Now they go to the park and they fetch the ball. Where's the ball? There it is.*

John - *Fetch! Good boy. Well go and lie down cos we're knackered. Oh no! It's raining!*

Wk 3 Day 2 Grp D		Bookmarks: Read & Solve (0.00-7.14): Make (7.15-16.10): Retell ((New file) 0.00-1.44)					
R E A D I N G	<p>Notes</p> <p>Ali is very keen to read first and allocates the remaining paragraphs to the other two boys. Ali again uses his finger to control his reading of each word (A). He struggles to read 'subtle' - then Sam helps him to read it correctly. Ali then carries on reading, but the other two stop him so that they can work on the meaning of the target word. By the time Ali resumes reading, he has lost sense of the story.</p> <p>When Rob gets to 'pristine' Ali shouts 'organised' and seizes the card with this written on it. Rob ignores him and carries on reading. Ali interrupts him again to test out his proposal of 'organised' for 'pristine', much to the annoyance of Sam who was following Rob's reading of the story. Rob shuts him up by letting him place the card on the answer sheet and then carries on. Ali and Sam argue and Rob starts to use his finger to control his reading of the text. Despite this he substitutes 'tried' for 'tired'.</p> <p>Sam also uses his finger to point to each word as he reads them. Ali corrects Sam when he reads 'means' for 'meant'. Again, the reading is interrupted to solve the target word and another argument ensues. They fail to agree so Sam stops the argument by carrying in reading at 'Tea', shouting over the other two boys. Sam attempts to read the next paragraph as well, breaking the agreed sequence as he had done the day before. Ali protests and starts to read over the top of Sam. Both are shouting at this point. Sam shouts 'Shut up or I'll twat ya!'. Rob diffuses the argument by suggesting a candidate for 'ton of bricks', thus changing the subject.</p> <p>Ali then shouts 'Now the last one!' and starts to read paragraph 5. Sam shouts and reads over the top of him and Ali has to stop. Ali responds 'The word is 'obsessively, you don't have to read it all!'. Sam however continues, shouting out the reading which is accurate. When he gets to the sentence about the cat being stroked slowly, he slows down his reading for as well for comic effect. Ali laughs showing that there is no hard feeling.</p> <p>Far from not wanting to read, the boys fight for the right to read as much as they can.</p>	<p style="text-align: center;">The Improbable Cat (2)</p> <p>My family is changing. Not in an obvious way- you know, growing a beard or dying their hair. The changes are subtle and I am the only one who seems to notice. To understand what I mean I'll have to tell you what my family were like before the cat came. 1</p> <p>Normally Dad liked everything to be tidy. His shirt collars were always pristine. Trousers ironed and shoes polished. Every day when we got back from school he'd ask Jade and I how our day had been and help us with our homework. No matter how tired, he always took an interest in his kids. 2</p> <p>Mum had been working part-time so that she could look after Robert. This meant that she always seemed to be rushing about- cooking; shopping; going to work; coming back from work. But, like Dad, she was always very particular about things. Tea was always ready by six and our lunches were always ready for us to take to school in the mornings. 3</p> <p>Jade, on the other hand, was always grumpy. My sister usually seemed to find something to complain about. Jade is the sort of person who wants something until she gets it. Then she decides she doesn't want it- she wants something else instead. And in the mornings, when everyone was still waking up, she'd come down the stairs like a ton of bricks. 4</p> <p>Now the cat has arrived, everything is different. When Dad gets home from work he obsessively fusses over the cat and ignores everyone else. Mum has started having time off work so that she can buy things for the cat but not for us. Sometimes we have to wait until eight or nine o'clock before we get anything to eat. Sometimes we don't get anything at all. As for Jade, she's always so calm these days- slowly stroking the cat and smiling quietly to herself. 5</p>					
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<p style="font-size: 1.5em; font-weight: bold; margin-left: 0;">A</p> 							

Rather than read the entire text and then solve the words, the boys solve the words as they go along. Sam remains standing throughout.

Target word: *Subtle* **Selected:** *obvious*

Ali reads the target sentence with the aid of his finger—**The changes are subtle and I am the only one who seems to notice**. Rob, pointing to the cards, says *Ali, we're just on that!* Sam proposes **organised**, then says *Eh? It can't be that! Are there any more words?* Both Sam and Ali try to think of a priori meanings for the word. Rob proposes **forgetful**. Ali proposes **constantly** and checks it by inserting it into the target sentence. Sam negates this and proposes **quickly** but carries out no check. Ali repeats his proposal of **constantly**. Ali picks up this card but is stopped by Sam—*It's not though! It doesn't make sense*. Ali repeats his complaint from the day before—*Don't agree with anything I say!* Rob checks **constantly** by reading the target sentence to show Ali that his proposal is wrong. Sam and Rob try **organised** and **forgetful** respectively before Rob suggests **obvious**. Sam and Rob (standing) agree, Sam paraphrasing the target sentence (below). Ali (seated), checks his copy of the text and agrees. The final selection '**obvious**' is an improvement in that it fits syntactically but it neglects the sense that the character is the only one who notices the changes.



Target word: *Pristine* **Selected:** *organised*

The selection of **organised** is syntactically plausible but does not reflect the story which is about **neatness** and **cleanliness**. This may be because the Ali, who proposes this word, breaks two rules that have held true so far. First, he interrupts Rob in the middle of reading the text, insisting that the others hear him check this word. The others complain that he is interrupting and tell him to put the card on the sheet, breaking a second rule—Ali says *But we haven't even discussed it!* Sam says *That's cos we know what it is!*

Target word: *Particular about things* **Selected:** *forgetful*

Sam proposes **forgetful**—**forgetful about things**. Ali negates this, but Sam defends his proposal, slapping the table with his hand. Ali's proposal of '**organised**' is made on the basis of an a priori definition that follows the sense of the text. However this definition is never expressed clearly. Rob points out that this proposal is compromised owing to the fact '**organised**' has already been allocated to '**pristine**'. Ali points out that this selection is probably wrong, but no one takes any notice. It is possible that the group were reluctant to revise their choice for '**pristine**' because doing so would create more work. The group then set about addressing the crisis. Ali tries again to spit out his a priori definition of particular. Sam shouts over him, repeating his counter proposal (**forgetful**). Ali throws his arms in the air in despair—*Put forgetful, but if you get it wrong, don't look at me!* (below)



Forgetful only fits syntactically but does not match sense (mum is a conscientious person) and so is repeatedly negated by Ali. Ali is preoccupied with the mis-selection of **organised** for **pristine** and so ignores the correct match '**careful**' which is available to him. Whilst Sam and Ali argue, Rob proposes **constantly**, but places forgetful on the answer sheet. In making this proposal Rob changes the focus of the discussion from '**particular about things**' to '**always**' (*she was always so particular about things*), which is a word that occurs in the target sentence and is a match for '**constantly**'. In doing so he breaks one rule (the need to match the cards only to the bold words and phrases in the text) but preserves another (matching words together that share the same meaning). Ali negates the proposal of **constantly** on this basis.

Rob then tells Sam he should read on as the word has now been solved. Not noticing this, Ali again checks **organised** by inserting it into the target sentence. Sam slaps the table and shouts, pointing to his copy of the text. *Shut up! I'm reading it!* Rob mimics Ali by inserting random words into the target sentence for comic effect (**obvious, lovingly**) and says *It could be any of them!* Ali shouts over the two of them, raises a hand in mock despair and repeats his warning *If you get it wrong, don't look at me!*

Target word: *Like a ton of bricks* **Selected:** *loudly*

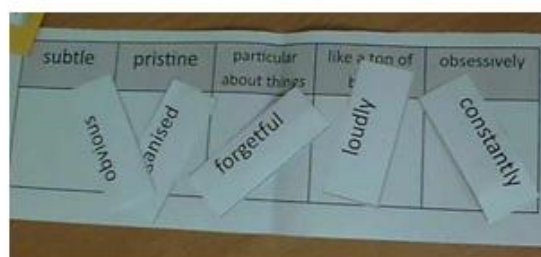
Sam and Ali are shouting at each other, arguing about who should be reading (both want to). Rob covers his ears (below) then stands up and places **loudly** on the answer sheet, announcing *I already know what it is. A ton of bricks means loudly.* Rob then sits down. This succeeds in breaking up the argument. Ali thinks about it and challenges – *Like a ton of bricks can't be loudly!* Ali then checks the text – **came down stairs like a loudly**. In doing so Ali tries to substitute loudly for only part of the target phrase, not for the entire phrase (i.e. **loudly** for **like a ton of bricks**).



Rob repeats his a priori definition, and Ali checks **loudly** by inserting it into the target sentence, this time correctly. He reluctantly agrees with Rob but now Sam proposes **quickly**, reasoning that Jade might have come down the stairs quickly. In other words, Ali's reading of the text distracted Sam from Rob's correct proposal **loudly**. Sam and Rob negate this candidate. Sam then starts to list all the candidates that are adverbs that might relate to Jade – **happily, quietly** – but not to a ton of bricks. Rob negates this strategy – *Like a ton of bricks is happy?* Ali and Rob repeat their candidate **loudly**. Sam proposes **small** – *Bricks are kind of small*. Rob and Sam laugh. Rob confirms **loudly** by inserting it into the target sentence again. Ali pre-empts any further challenges from Sam by shouting *Right! The last one!* Ali starts to read the final paragraph.

Target word: *Obsessively* **Selected:** *constantly*

Rob stands up and proposes **happily** but does not place this card on the sheet as Sam is still reading. Ali shouts at Sam to stop reading so they can solve **obsessively**, but Sam ignores him and reads louder and slower to the end of the paragraph. **Happily** fits syntactically but does not fit the sense of the story – i.e. that the parents are neglecting the children in order to look after the cat. Ali repeatedly asks someone to define **obsessively** for him. At this point Karen, from group C walks past and tells Sam to *Fuck off*. Ali spots **constantly**, snatches up the card, holds it to his copy of the text and reads the target sentence in a loud voice, almost shouting (below). Ali then places the card on the sheet and drums his palms on the table to signal that the task is finished. Sam says *We're done!*



The group divides into two from the outset. Rob suggests characters to Sam that he then draws. Meanwhile Ali struggles to think of something to draw and turns to the text for ideas.

[Sam is drawing Jade]

Rob- Draw dad after that. Then draw the cat.

Ali [reading the text]- You need to do what's in it. You're just drawing random people. (1)

Rob- No he isn't.

Ali- You don't know what the story's about.

Rob- Yes we do.

Ali- What's it about?

[Silence]

Ali- Exactly!

[Silence whilst Sam draws and Ali reads]

Rob- Draw a dad.

Sam- A grumpy old...

Rob- What is he? Superman?

Ali- Do you know that Robert's the kid- that's his little brother.

Rob- Oh!

Rob- Ali! Pass us that card!

[Ali, not looking up, throws it to Rob (2)]

Rob [to Sam]- Now who should you draw?

Ali- I'm trying to read the story to understand it cos someone needs to do it you know... So shut up then.

Rob- Who do we need to draw now Ali?

Ali- I don't know... Read it yourself... Draw Robert.

Rob [to Sam]- Draw Robert.

Sam- You're doing it [Throws the card at Rob]

Rob- I actually can't draw.

Sam- Neither can I... See the cat. It looks like a frog.

[Sam picks up the puppets of the cat and dog he has made and starts moving them around the table barking loudly. He moves across to where Ali is sitting]

Sam- Ali... I'm coming!

Ali- It's about... Shut up... I'll tell the story. Do you know what's happening? [Points at the text] (3)

Sam- Aye!

Ali- Well you see this... it's changed... Listen!

[Sam plays with the puppets making woof noises]

Rob- We could have it like that- then this could be the inside of the house. [Uses a sheet of paper to make a wall. Sam throws his puppets at the wall and knocks it down (4)]

Ali- Are you lot happy with the story?

[Sam wanders off and Ali and Rob are left alone. As yesterday, Rob starts working just before the retell is to be filmed. Ali again tries to explain the story to him.]

Ali- It's about the cat... how it's changed... Are you listening? It's about the cat. How it changes the family. (5)

[At this point Eve from group B arrives and turns the camera off in preparation for liming the retell]

1



2



3



4



5



RETELL



(Filming by Eve from Group B)

Ali- The story's about the dad and how he's changed and how the cat's changed the family.

[Sam gets the cat and dog puppets and moves them around the table making woof noises. Ali looks despairingly at the camera]

Sam- And then what's his name [starts making a figure out of play dough]. That's his head and that's his body and here's his legs and then he looks though the window and then he cannot go in the house. The dog jumps up with his front two legs and looks through the window with him... and then he starts whining (above).

Wk 3 Day 3 Grp A	Bookmarks: Read (0.00-1.50): Solve (1.57-3.17): Make (3.25-16.30): Retell (16.50-17.54)
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R
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G

The Improbable Cat (3)

I decided that something had to be done about the cat. I found some sleeping pills in the bathroom cupboard and ground them up into a fine powder. I watched Mum make the cat's tea and, when **her** back was turned, I **smartly** ripped over and emptied the powder into the bowl. The bowl was then put on the floor and the cat **ate** ravenously, finishing the whole lot in a few seconds.

I called my friend Andy on the phone and told him to come over. When he arrived, the cat was in the living room watching the television. The room always seemed darker when the cat was around. In the gloom I could see that the floor was covered in **debris** – crisp packets and dirty bowls littered the floor. The cat, on the other hand, looked very healthy and well groomed as it sat staring at a **gardening** programme.

Andy and I watched the cat for an hour but nothing happened. 'That cat could eat a **hopper-full** of pills and still not even feel a little bit sleepy' I whispered.

At that moment, the doorbell rang. No one else was in the house so I got up to answer it. I opened the door to a man who was selling dusters and told him that everyone was out and to come back later.

When I got back, the living room seemed much darker. The air was **stifling** and I felt my chest tighten. All of a sudden, it was very warm in there even though the heating was turned off. Then I noticed where Andy was. He was sitting next to the cat watching the TV with a curious blank expression on his face. He was **stretching** out his hand to stroke the cat....

'Don't touch it!' I yelled, and I ran over to grab him.

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Notes

The girls read the text at a very fast pace, often running words into each other and taking little note of punctuation. They are interrupted by another child who distracts them. Their initial response is to laugh (A) and then annoyance. They stop the camera and start from the beginning again so as to get a 'perfect' recording.

Text reading
1 & 4 Betty* (W11.09/F16.00/NF16.00)
2 Jill (W11.00/F12.00/NF8.06)
3 Kim (W12.06/F10.08/NF9.05)
Red: Error Blue: corrected error

A



Target word: *Smartly* **Selected:** *silently*

Kim says Right! Do number one first. Betty's a priori meaning **cleverly** is challenged by Jill who tests it through a reread of the target sentence – **I cleverly nipped over**. As she reads she holds the card against the text (below). Betty doesn't look at the text whilst Jill reads but at the cards. She then counter proposes **silently**. She then carries out her own check – **I silently nipped over**. Kim agrees – Aye! Jill picks this card up and holds it against her copy of the text as before. Kim asks Betty to write the word on the answer sheet. *No you don't!* Shouts Jill, glancing at the camera. *You put that there*, and places the card on the answer sheet. Kim saves face by giving the order – *Right, number two!*



Target word: *Debris* **Selected:** *litter*

Jill misreads **debris** as **derbis** and tries to find it in the text. Before she can do so Betty points to the card marked **litter**. Then she points to the text and reads to confirm (below) – **It was covered in crisp packets and dirty bowls**. No mention is made of the fact that **littered** appears in the text. Jill quickly holds the card against her copy of the text and then transfers it to the answer sheet.



Target word: *Hopper full* **Selected:** *hand full*

Kim slaps her hands on the table to signal that it is her turn. Before she can speak, Betty suggests either **hand full** or **truck full**. She starts to explain *Because a hand full...* but is cut off by Kim who tells her to *Wait!* Kim takes the card marked **truck full**, places it against the text (below) and misreads – *a cat couldn't even eat a truck full..* She then carries out the same test with **hand full**. Kim says the answer sounds like **hand full** and Betty agrees. Jill places the card on the answer sheet.



Target word: *Stifling* **Selected:** *hard to breathe*

Jill reads the word as **stifling** and starts to read to search for information – **The air was...** Betty proposes **hard to breathe**. Jill inserts the word into the sentence and continues reading – **and I felt my chest tighten**. Yes. Look. *Cos it says I felt my chest tighten* she says. Jill points to the relevant section of the text as she says this. Betty places it on the answer sheet.

Organising and focusing

Kim- *Will I do a hand and then put little pills in it?* (1)
 Jill- *Uh huh. I need to do litter like.*
 Kim- *Like cat litter*
 Jill- *No! Litter... crisp packets and things.*
 Betty [Who has started drawing and doesn't look up]
Draw what it is
 Jill- [To Kim] *You need to draw what it is before you start using the play dough.*
 Kim- *I'm going to draw around my hand.*
 Jill- *Crisp packets.... What else is there?* [Picks up the text and reads] *Dirty bowls.*

Monitoring- the shape of the pills for Kim's picture

Kim- *Are pills circles or just a round shape?*
 Jill- *They're like* [starts to draw on Kim's sheet]
 Betty [Banging fingers on the table] *I don't know.... Cos he's crushed them.*
 Jill- *Yeah. He's crushed them.*
 Kim- *So I'll just do dots?*
 Jill- *Yeah* [Makes dots on Kim's sheet with a pencil to demonstrate].

Monitoring- how to represent 'stifling air'

Betty [looking at the text] *How am I supposed to draw the air?*
 Jill [Clasping her ribs (2)] *You could have him....*
 Betty [Still looking at the text] *You've got to draw what's happening... so like the living room... Like dark* [Draws outline of the room]
 Jill- *It is... then it's his heart* [Clutches her ribs again. Then she sees Kim helping herself to the play dough and frowns. She takes the pot away from Kim].
 Kim- *You need blue... for salt and vinegar.*
 Jill [Picking out lumps of dough from the pot] *We had this one yesterday. I know cos I put them into groups.*
 [Betty is silent, drawing]
 Kim- *Are pills pink?*
 Jill- *They're all colours.*

Monitoring- the bowl in Jill's picture

Kim- *What's that?* [Kim points at Jill's drawing (3)]
 Jill- *The bowl* [Starts to draw round the bowl more boldly]
 Kim- *What bowl?*
 Jill- *There's a bowl, a dirty bowl on the floor* [picks up her copy of the text (4)] *It says the floor was covered in der-bis packets of crisps and dirty bowls littered the floor.*
 Kim- *Oh!*

(For the most part the girls work on their respective reconstructions and make little eye contact when they talk (5). Unlike previous days, there are long periods of near silence where the girls concentrate on what they are doing. The above episodes of monitoring serve to punctuate these periods of quiet work.)

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5



RETELL

1



Betty

He put pills in the cat's food because he wanted to get rid of the cat because there was something a bit fishy going on. So he put sleeping pills in the cat's food but.... it didn't really work.

2



Jill

When he walked into the sitting room he looked at the floor and the floor was covered in a packet of crisps and dirty bowls.

3



Kim

After the watched the cat for a while and nothing happened. The cat could eat a hopper full of pills and still not feel a bit sleepy.

4



Betty

The living room was dark and it was hard to breathe with the air and the cat was still awake- it wasn't really sleepy.

Wk 3 Day 3 Grp B	Bookmarks: Read (0.00-3.12): Solve (3.26-6.22): Make (6.23-16.09): Retell (17.00-20.14)
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The Improbable Cat (3)

I decided that something had to be done about the cat. I found some sleeping pills in the bathroom cupboard and **ground** them up into a fine powder. I watched Mum make the cat's tea and, when her back was turned, I **smartly** nipped over and emptied the powder into the bowl. The bowl was then put on the floor and the cat ate **ravenously**, finishing the whole lot in a few seconds.

I called my friend Andy on the phone and told him to come over. When he arrived, the cat was in the living room watching the television. The room always seemed darker when the cat was around. In the gloom I could see that the floor was covered in **debris** – crisp packets and dirty bowls littered the floor. The cat, on the **other** hand, looked very healthy and well groomed as it sat staring at a **gardening** programme.

Andy and I watched the cat for an hour but nothing happened. 'That cat could eat a **hopper-full** of pills and still not even feel a little bit sleepy' I whispered.

At that moment, the doorbell rang. No one else was in the house so I got up to answer it. I opened the door to a man who was selling dusters and told him that everyone was out and to come back later.

When I got back, the living room seemed much darker. The air was **stifling** and I felt my chest tighten. All of a sudden, it was very warm **in** there even though the heating was turned off. Then I noticed where Andy was. He was sitting next to the cat watching the TV with a curious **blank** expression on his face. He was **stretching** out his hand to stroke the cat....

'Don't touch it!' I yelled, and I ran over to grab him.

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4

Notes

Lily (centre) takes charge of the materials and distributes copies of the text. She then allocates sections of the text to be read by group members, opting to read section 4 for the absent May.

The text is read at a steady pace with re-runs used to confirm difficult passages. The only expression occurs the end where 'Don't touch it!' is read and then acted out. The girls laugh.

Text reading
1 Eve (W10.00/F8.06/NFna)
2 Sue (W9.06/F7.07/NF7.07)
3 & 4 Lily (W9.06/F12.00/NF13.02)
Red: Error Blue: corrected error



Sue asks where the answer sheet and Lily slaps her hand on it and says that she has it. Sue takes control of the cards and starts to lay them out in an array.

Target word: *Smartly* **Selected:** *silently*

Eve calls the group to order by reading the target word. Sue, still laying out the cards, says **Smartly means...** Lily says *Wait there!* and searches her copy of the text for the relevant section using her finger. Lily starts to read the target sentence and then stops, points to Eve's text and says *No, you need to read it.* Eve reads **I smartly..** and Lily stops her. *No, you need to read around it so it makes sense.* Sue is still laying out the cards. Eve reads the whole sentence, with Lily leaning over her. Lily and Eve are separated from Sue physically and in the task they are doing (below).



Sue asks Lily what **smartly** means. Sue and Lily scan the cards. Simultaneously they each propose **quickly** (Lily) and **cleverly** (Sue), each putting their finger on the respective cards. Lily takes both cards and holds them against her copy of the text. She checks **quickly** and then **cleverly** by inserting them into the text, reading the entire sentence in the first instance and then just a short phrase in the second. Sue reassembles **cleverly**. Lily says that she would *normally put quickly because it sounds better but...* Eve challenges this and reads from the text **I quickly nipped over**. Her emphasis of **nipped** shows that Eve is aware that **quickly** is the correct selection. However Sue negates this and Lily agrees. When asked if she agrees, Eve mumbles 'yes' but still reads the text, confirming her answer. Lily and Sue share a joke together.

Target word: *Debris* **Selected:** *litter*

Lily says *Right. This is yours* and Sue reads the target sentence. Both Sue and Lily simultaneously propose **litter**. Lily starts to read the text herself to check this but Sue interrupts her by repeating her proposal of **litter**. Lily asks Sue to wait, picks up **litter** and says that they should also check **mess**. Sue gives a short groan. Lily reads **was covered in mess, crisp packets..** Sue interrupts and says *Yeah! Mess*. Lily makes to give Sue the card but then snatches it away to show Eve and to ask her opinion. Eve agrees and Lily puts the card on the answer sheet.

Target word: *Hopper full* **Selected:** *hand full*

Lily says *Right! So! Three...* She reads the target sentence but misreads **That** for **The** - **The [That] cat could eat a hopper-full of pills and still not even feel a little bit sleepy.** This misreading makes the exaggeration in the sentence harder to detect. Hence the competing candidates **sack full** and **truck full** are ignored, even though Sue says *That's like loads* and proposes **hand full**. Lily checks this by reading the whole sentence, making the same error as before. Lily approves the selection and places **hand full** on the sheet.

Target word: *Stifling* **Selected:** *hard to breathe*

Lily reads the entire target sentence, misreading **stifling** as **stiffling**. She uses her finger to guide her reading. Sue picks up **hard to breathe** and Lily checks it by reading - **The air was stifling and I felt my chest tighten.** Lily says *Yeah! Because if it was bad smelling your chest wouldn't tighten.* Lily clasps her chest as she says this modelling being out of breath. Sue places the card on the sheet (below).



Organising the task

Lily [to Eve] *Alright! You need to do something for the top* [taps finger forcefully on Eve's sheet (1)]. The card marked 'silently' has fallen off]

Sue- *I need to make a mess.... for the cat.*

Eve [Has placed 'cleverly' on the answer sheet]- *Cleverly... how am I meant to do cleverly?*

Lily- *No! It's not about... give us this* [Takes Eve's copy of the text and reads from it (2)]- *'I decided that something had to be done about the cat. I found some pills..'* so you put some sleeping pills..

Eve- *Oh right!*

Lily- *So make a bowl and then put pills inside it.* [Lily uses her fingers to indicate the shape of the bowl (3)]

Eve- *A bowl.*

Lily- *A bowl, like this look* [Fashions a rough bowl out of some dough then places it in front of Eve] *Just a round bowl with pills sticking out of it and stuff. Just a round bowl- but obviously make it better.*

Sue [Showing Lily what she has made (4)] *Look at my packet of crisps.* [Laughs]

Lily [Looks at the model and laughs]

Sue- *I'll draw Andy's friend.*

Monitoring and mutual support

Lily [Making a model of the cat] *Does it matter if this cat looks a bit weird, cos I have to do a cat eating a lot of pills- cos that's what it said, a cat could eat a handful..... Is everybody doing fine?*

Eve [Shows Lily what she has been making] *Does that look like a pill?*

Sue [Looks at Lily's model which she has put down] *Oh! It's cute... look at it!*

Lily- *No, pills are like* [Rolls the pill Eve made into a capsule shape (5)]

Sue- *We make everything 3D don't we?*

Eve- *Everyone else puts them on the pictures.*

[Sue adds to Lily's model. Lily sees this and lets her continue]

Lily- *Right, now I've got to do a pill... I'll do a purple pill*

Sue [Playing with Lily's model of the cat]- *Oh, it's cute.*

1



2



3



4



5



A change in strategy

(Up until this point, the girls have been making everything out of dough. The researcher brings some card round and the girls decide to make some puppets of the story characters as they did the day before. Sue and Eve understand what this shift means but Eve is confused)

Sue - *We could just draw this on here* [indicating the card] *and then make a scene* [indicates the dough].

Lily *I know, I'll do the settee* [starts collecting up dough]. *I need to do this* [Picks up some card]

Sue [To Lily] - *So are you drawing the cat?*

Lily - *You... No. Cos you need to draw your bit* [taps Sue's sheet with her finger (6)] *I'm making the scene for my bit so these are all mine* [Collects up a pile of dough (7)]

Eve - *So what do I do? Do I just draw that?* [points to the bowl that she has been making (8)].

Lily - *This is the cat. I'm drawing the cat.*

Eve [Again pointing to the bowl] *So is this what I draw?*

Lily - *No you keep it like that.*

Eve - *Do I need to draw?*

Lily - *No, but you can draw Andy* [Turns to Sue] *She can draw Andy.*

Sue - *I'll draw Andy's friend.*

Monitoring and mutual support

Lily - *Right! Wait there! Has everyone drawn the people? Does it mention anyone else?* [Checks her copy of the text]. *Mum!* [Starts drawing mum on some card]

Sue [to Eve] - *Look at my TV* [points]

Eve - *Laughs*

Sue - *Look at my Walker's crisp packet* [holds it up]

Eve - *Laughs*

Lily - *Alright, is anyone else mentioned?* [Checks text again]

Sue - *My dirty bowl* [holds up]

Eve - *Laughs*

Lily - *No! Right!*

Preparation for the retell

Lily [To Eve] *Right. Do you want to act the cat out cos Andy's not in it yet.*

Eve - *What will I do?*

Lily - *We need the boy so... wait there* [Looks at text] *So you need to act it out, you need the mum...* [Looks at text, picks up this puppet (9) and passes it to Eve]

the boy... *do you need me to help you?*

Eve - *You can help.*

Lily - *Right! So here's what it says* [starts to read aloud from text]. *No, I tell you what, we won't look at them - say bye to them.* [Collects up copies of the text]

6



7



8



9



RETELL

1



Lily and Eve

Sue tries to hold one of the puppets but Lily says *I need to do this*. Then she laughs apologetically and turns to Sue and says sorry. Lily then tells Eve how to hold the puppet of the cat. Teacher C, who is holding the camera says *I've not got you at all Sue, is that right?* Off camera Sue says *No*. Teacher C pans the camera back so Sue is in shot. Lily says *Do you want to do anything?* Sue does not reply and looks down. *You can be the mum* [Lily passes Sue the puppet] *and put the cat's tea out.*

Lily- *Dinner! I just found some pills. [Puts pills in bowl]*
Eve moves cat to bowl. Cat eats.
Lily- *That's the first bit.*

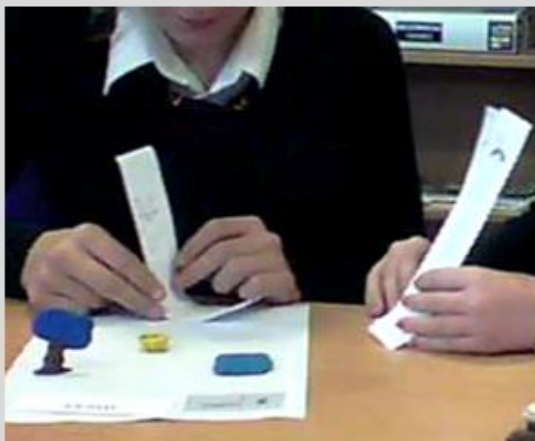
2



Sue

The cat watches the TV and there's a big mess in the sitting room. [Laughs]

3



Lily

His friend Andy comes over and they watch the cat. They try to wait for hours for the cat to fall asleep but the cat doesn't feel a little bit sleepy. The cat could have a hand full of pills and would not go to sleep. [Picks pills from the bowl and places them in front of the cat puppet.]

4



Lily

And then he needs to answer the door. There's a strange man at the door who's selling things, but he says that his mam and dad aren't in just yet. [Gives puppet to Eve] grabs Eve's arm and moves it towards the cat puppet]

No get away from him! Don't stroke that evil cat!

Wk 3 Day 3 Grp C	Bookmarks: Read (0.00-3.30): Solve (3.36-6.35): Make (6.45-23.45): Retell (25.00-26.48)
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The Improbable Cat (3)

I decided that something had to be done about the cat. I found some sleeping pills in the bathroom cupboard and **ground** them up into a fine powder. I watched Mum make the cat's tea and, when her back was turned, I **smartly** nipped over and emptied the powder into the bowl. The bowl was then put on the **floor** and the cat ate **ravenously**, finishing the whole lot in a few seconds.

I called my friend Andy on the phone and told him to come over. When he arrived, the cat was in the living room watching the television. The room always seemed darker when the cat was around. In the gloom I could see that the floor was covered in **debris** – crisp packets and dirty bowls littered the floor. The cat, on the other hand, looked very healthy and well groomed as it sat staring at a gardening programme.

Andy and I watched the cat for an hour but nothing happened. 'That cat could eat a **hopper-full** of pills and still not even feel a little bit sleepy' I whispered.

At that moment, the doorbell rang. No one else was in the house so I got up to answer it. I opened the door **to a man** who was selling dusters and told him that everyone was out and to come back later.

When I got back, the living room seemed much darker. The air was **stifling** and I felt my chest tighten. All of a sudden, it was very warm in there even **though** the heating was turned off. Then I noticed where Andy was. He was sitting next to the cat watching the TV with a curious **blank** expression on his face. He was stretching out his hand to stroke the cat.....

'Don't touch it!' I yelled, and I ran over to grab him.


1
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Notes

John takes charge of the materials and insists that he reads first 'once we've got sorted out'. The pair then spend some time organising the materials. This is in contrast to the usual chaotic start in this group. Pete then suggests they read alternate paragraphs, pointing to his copy of the text – You go, I go, you go.

This methodical approach is reflected in the way the boys read. Both are very careful to read accurately. For example, Pete uses several reruns to try to attempt 'debris' but unsuccessfully.

Text reading
1&3 John* (W10.00/F/7.07/NF7.02)
2 & 4 Pete* (W11.03/F10.05/NF7.02)
Absent (Ned & Roy)
Red: Error Blue: corrected error



110

Target word: *Smartly* **Selected:** *cleverly*

John focuses the task– Right! **Smartly**... I **smartly nipped over**. Whilst he says this he sorts through the cards. The boys make no attempt to lay the cards out in an array but place them in a disordered pile on a corner of the table (below).



John proposes **cleverly**– *Cleverly might be it cos it's a bit similar, and its got the same ending*. Pete agrees so John puts it on the answer sheet. The cards are still jumbled up so there is little chance for them to compare this selection with any competing candidates that also end in -ly.

Target word: *Debris* **Selected:** *litter*

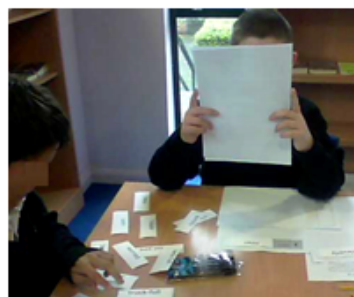
John is reading the text, trying to find the target sentence for this word, which he pronounces **der-biz**. Pete says *I know what derbiz is.. Cos stufflyng over.. Litter*. Pete has placed the answer sheet over his copy of the text, so he now can't see it. Neither can he see all the cards which he shuffles as a pack until he finds **litter** (below).



If he had found **mess** first it is likely he would have selected this card instead, given that he cannot read **debris** and therefore has no a priori meaning for this word. John reads a fragment from the text– **stuff lying**.. Then he confirms the selection– *Aye. Litter cos.. It sounds similar as well*.

Target word: *Hopper full* **Selected:** *hand full*

Pete focuses the task– Right! **Hopper full**. Again, the cards are shuffled rather than displayed, this time by John. Pete proposes **sack full** and picks up this card. John proposes **truck full** or **hand full**. Pete says *Wait a minute!* And rescues John's copy of the text from under a pack of pens – Right! *We'll read the text again*. Because of the clutter on the table, Pete holds the text up to his face, meaning John is unable to see it (below)



John proposes **mouthful**, but discovers that that is no card marked with this word. Pete negates **truck full** and adds– *I would say a hand full*. In saying this Pete picks up **hand full** and places it on the sheet. Pete then says *What do you think? Cos look* and then reads from the text– **That cat could eat a hand full of pills and still not feel a little bit sleepy**. Not convinced, John says *Probably... We'll just see what it is*. Pete says *We'll leave it for that now and then we'll do it later*.

Target word: *Stifling* **Selected:** *hard to breathe*

John tries to read the target word **stifling**– **sitfulling**. Pete is also unable to read the word. John reads a fragment of the target sentence– **the air was hard to breathe**. John proposes **hard to breathe** and then negates it. Pete reads the target sentence. John proposes **bad smelling**. Pete inserts **hard to breathe** into the sentence then negates it– *no it wouldn't be that*. John checks this candidate again– **The air was hard to breathe. I felt my chest...** Then he says *It could be right!* Pete spots **bad smelling** and proposes this, picking up the card. John gasps in exasperation and hold his head in his hand– *just...* (below)



In response, Pete reads an extended section of the text– **When I got back to the living room it seemed much darker the air was bad smelling and** Then he negates his choice and puts the card down. Pete asks John *What do you think?* John says *hard to breathe... could be.. Or it could be any of these you know*. Pete picks up the card again.– *Do you want to put that?* John says *Aye! You see...* and then gasps in exasperation again. *I reckon we're going to get two [right] here, cos like two questions were like hard*. Pete places the card on the answer sheet.

Given the difficulties experienced in the group in the previous two sessions and in light of the fact that Roy and Ned are absent, Teacher A and C agreed to check intermittently on the boys progress but to limit their involvement as far as possible.

First attempt at organising the task

Teacher C – *I understood it that you would the pictures for each paragraph on that* [points to the numbered sheets provided]

Pete – *Right. I'll do a hand and litter.*

John – *I'll do cleverly* [Gets sheet one] *Clever face?.... Clever face....*

Pete – *Just do a person like who....*

John – *Clever face.... There's the eyes.... Dodgy eyes..... big greedy eyes.*

Pete – *That's the hand* [Points to model] *That's done!*

John – *What's a clever face? Nasty and that?*

Pete – *It's like* [Pulls a face that is smiling and frowning at the same time]

Pete – *Then we'll do handful.... Do you and me want to do litter?*

John – *Just put a bin with loads of stuff round it.*

Pete – *No. We'll just put litter... crisp packets*

John – *Aye.*

Second attempt at organising the task

[Teacher A approaches to check on the boys]

Pete [To Teacher A] *Do we need to do the kitten?*

John – *Is that a clever face miss?*

Teacher A – *Each paragraph has to be shown in a picture relating to the story, so number one* [points to sheet] *goes with paragraph one* [points to text]. *Do you understand?*

John – [Puts head in hands (2)]

Pete – *Ah! So we have to do a picture of what's going on?*

[Teacher A leaves]

Pete – *We did it wrong.* [Dismanthes what he has been making] *Right.... Number two....* [Reads first sentence of paragraph two (1)] *Right. I'll do a phone.*

John – *Why?*

Pete – *Cos he was on the phone wasn't he.*

John [Unlike Pete, John does not dismanthes what he has been making] *Well a clever did sleeping pills – getting mixed into a bowl.*

Pete – *There!* [Passes a lump of dough] *Just use that.*

[John adds some small pieces of dough]

John – *Then are the sleeping pills*

Pete – *Good*

John – *Shall we label them? Say what they are?*

Pete – *We'll do it at the end as we could put something wrong.*

[The boys work independently. Pete regularly looks at the text as he is working. John rarely does this, instead asking Pete for his opinion]

1



2



Teacher intervention causes confusion

John - *Shall I do number three? Sleeping pills...*
Er... what's next? [John consults text (3). Moves the lump Pete gave him] *That's the bowl.*
 Pete [Looking at the text] *I'm doing number one*
 [John has sheet one, Pete has sheets 2 & 3. Neither has claimed sheet 4]

John - *There's the bowl! It doesn't really look like a bowl. We need to make the handful and hard to breathe.*

[Teacher C appears to check on the boys. Pete asks her for more play dough. Teacher C points to the large lump of play dough the boys have used to make the bowl for the sleeping pills. She suggests breaking it up into smaller parts so they can reuse the spare dough]

Teacher C - *What's that?* [Pointing to the bowl] *Is that the ball?*

[Pete nods]

Teacher C - *Why don't you make the ball a bit smaller? Then you could....*

Pete - *What? That bowl?*

Teacher C - *A football.*

Pete - *I'll take it apart.*

Teacher C - *Yeah. Make it smaller and make it really round. Cos it needs to look like its bouncy.*

[Pete tears the bowl apart and hands a bit to John who rolls it up and attempts to bounce it. He then adds the ball to his picture for paragraph 1. There is no mention of a ball in paragraph one. John then starts to make a hand]

Lack of boundaries causes confusion

John - *That's a finger.... There's two fingers.... And a big fat one.*

Pete - [Looking at the text] *A handful... right.*
 [Looks at what John is doing] *Are you doing....I'll do the pills.*

Pete [Looking at John's work] - *You're doing number one? I'm doing handful! That's hopper full*
 [points to paragraph three (4)]

John - *So?*

Pete - *We've got to tell the story back you know*

John - *Do we?*

Pete - *Yeah. This is the cat* [Places the model cat on John's sheet which is depicting paragraph one (5)]

Looks again at what John is making] *No! This is handful* [points to the sheet for paragraph three which he has] *Are you doing handful? Right, I'll do hard to breathe.*

[John adds his model of the hand to Pete's sheet for paragraph three (6)]

John - *You need to do litter you know.*

Pete [Pointing to his work] *I already have.*

John - *Where?*

Pete [points again. Pete works on hard to breathe very quickly and without talking]

John - *That's it. We're ready.*

Pete - *We haven't done handful.*

John - *Aye. It's here!*

3



4



5



6



RETELL

1



Pete conducts the retell

So this is the clever face and then are the pills and that's the cat.

2



These bits are the litter, right, and he's phoning his mate and his cat....erm...enn that cat was in the living room watching a gardening programme.

3



*That's the bowl.... Where he puts the pills in...
[To John] Where's handful. We didn't get round to doing that one.*

John-What did you do with handful?

4



Then this one, his mates come over and his mate's just about to stroke the cat.

Wk 3 Day 3 Grp D

Book marks: Read and Solve ((Audio file) 0.00-9.31):

Make ((Video file) 0.00- 7.11): Retell (Video file) 0.00-1.09)

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The Improbable Cat (3)

I decided that something had to be done about the cat. I found some sleeping pills in the bathroom cupboard and ground them up into a fine powder. I watched Mum make the cat's tea and, when her back was turned, I **smartly** nipped over and emptied the powder into the bowl. The bowl was then put on the floor and the cat ate **ravenously**, finishing the whole lot in a few seconds.

1

I called my **friend** Andy on the phone and told him to come over. When he arrived, the cat was in the living room watching the television. The room always seemed darker when the cat was around. In the gloom I could see that the floor was covered in **debris** – crisp packets and dirty bowls littered the floor. The cat, on the other hand, looked very healthy and well groomed **as** it sat staring at a **gardening** programme.

2

Andy and I watched the cat for an hour but nothing happened. 'That cat could eat a **hopper-full** of pills and still not even feel a little bit sleepy' I whispered.

3

At **that** moment, the doorbell rang. No one else was in the house so I got up to answer it. I opened the door to a man who was selling **dusters** and told him that everyone was out and to come back later.

When I got back, the living room seemed much darker. The air was **stifling** and I felt my chest tighten. All of a sudden, it was very warm in there even though **the** heating was turned off. Then I noticed where Andy was. He was sitting next to the cat watching the TV with a curious blank expression on his face. He was stretching out his hand to stroke the cat.....

4

'Don't touch it!' I yelled, and I ran over to grab him.

Notes

The boys first ensure that the materials are well organised with the cards laid out in an orderly pattern so that all can see them. The text is read slowly, a word at a time, with limited phrasing. Each target word is solved as it is encountered in the text and then the text is read again from start to finish to check the 'fit' of their answers. This is surprising given the extra effort needed for this strategy.

The boys interrupt each with suggestions or help during reading. They all laugh when 'selling dusters' is misread as 'selling drugs'.

Text reading

1 & 4 Ali (W11.00/F12.00/NF13.02)

2 Jim (W8.00/F7.07/NF9.05)

3 Rob* (W10.09/F/12.10/ NF16.00)

Red: Error Blue: corrected error



Again the group opt to solve the words as they read the text rather than read the entire text first. The camera failed in this part of the task,. These notes are based on an audio recording).

Target word: *Smartly* **Selected:** *cleverly*

An a priori definition suggests '**cleverly**' which is tested with a check. The students are not happy with the check and recognise that any of the cards ending in -ly might apply. They start to check each one but, possibly realising that this strategy would not successfully resolve the dilemma, go back to '**cleverly**'. Evidence suggesting '**quickly**' (e.g. whilst mum's back was turned) is ignored.

Target word: *Debris* **Selected:** *litter*

(Phase 1) The dilemma is managed at this stage simply in terms of testing which option (**mess** or **litter**) sounds right when inserted into the story. **(Phase 2)** The dilemma revolves around the distinction between outdoor untidiness (**litter**) and indoor untidiness (**mess**). Evidence from the text is used to discount this distinction in terms of the author's own perspective (**crisp packets and bowls littered the floor**)

Target word: *Hopper full* **Selected:** *hand full*

The dilemma is between two options- **hand full** and **sack full**- that are compared in terms of the amount a 'normal' cat could consume. This misses the point that the expression is an exaggeration emphasising the magic powers of the cat.

Target word: *Stifling* **Selected:** *hard to breathe*

(Phase 1) 'Warm' is rejected but with no serious counter proposal. Instead the group propose a string of quasi proposals, some for humorous effect (**happy**), some implausible (**carpet**) and some plausible but not marked on the cards as an option (**calm**). Surprisingly the group decide to restore order by reading the whole text from the beginning, inserting their selections into the text in order to confirm their validity.

(Phase 3) Evidence from the text is used to eliminate '**warm**' as a candidate. It is correctly pointed out that it became **warm** after the character found it hard to breathe. A priori meanings of '**chest tightening**' are used to reinforce 'hard to breathe' as the candidate for selection

Division of labour

Jim- *You're number one* [puts finger on para 1 in Ali's copy of the text] *I'm two* [points to para 2 in his own copy of the text] *you're three* [points to Rob's text] *and four* [points again to Ali's text]. (1)

Ali- *We should do each paragraph together. Let's do [paragraph] one. Let's read it and think about what to draw.*

Rob- *Kitchen.*

Ali- *Wait. Let's do it together- each paragraph.*

[Ali reads the first two sentences of the story]

Ali- *I think it's in the toilet- in the bathroom cupboard.*

Rob- *No. Making the dinner.*

Ali- *But it says 'in the bathroom cupboard'.*

Rob- *She'll be making dinner in the kitchen.*

Jim- *Where does it say bathroom?*

Ali [pointing to the text]- *Second line... 'some sleeping pills in the bathroom cupboard' and then she's making tea in the b... in the kitchen. I think we should draw kitchen- her making the tea and him grabbing the cupboard.*

Jim- *Where's this?*

Ali- *Look. Draw a...*

Jim [pointing to his sheet of paper]- *A door there. A door there, the kitchen there and the stairs.*

Ali- [pointing to Jim's sheet (2)] *Put a door, him in it touching the cupboard with his....*

Jim- *I think we should do the stairs me. We do the stairs and then the door there and then him reaching up and then the kitchen, her reaching up.*

Ali- *Not reaching up. She's not reaching up. She's just making - draw her on the pan or something.*

[Ali and Rob spend some minutes watching Jim and asking him about the things he is drawing. Neither make any attempt to draw anything (3)]

Ali [to Rob]- *What are we going to say about it?*

[Rob is still asking Jim questions]

Ali- *Let him draw. What are we going to say about it? He nipped into the bathroom to get some pills.*

Rob- *Sleeping pills.*

Ali- *While his mum was making tea.... And he ate them all up in a few seconds.*

Rob- *The cat ate them.*

Jim- [finishing the first image] *There you go!*

Rob- *There's one!*

[Rob places sheet one back with the others and places sheet two in front of him]

Jim- *Let's read this one. (4)*

Rob- *Jim, this is the easiest one to do. All you have to do is draw the cat on the chair in the living room with litter all over.*

Jim [to Ali]- *Read it*

[Ali reads the first three sentences of paragraph two]

Ali- *We could draw the cat watching telly and then [Jim starts to draw] Wait! Wait! Wait!*

[Jim keeps drawing]

(At this stage the battery on the camera fails again and the recording ends)

1



2



3

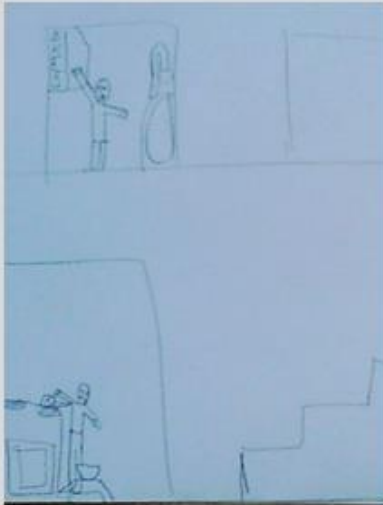


4



RETELL

1



Ali

The first picture is about the boy going in the bathroom and reaching for the pills while mum was cooking dinner for the cat.

2



Ali

The second picture is about the friend coming over and the cat watching TV with loads of litter on the floor.

3



Ali

The third is about Andy and him looking at the cat eating pills and did not feel much sleepy.

4



Rob

My mate was sitting next to the cat, trying to stroke it, so I ran over and stopped him.

Target word: *Shivering* **Selected:** *cold*

Jill then says 'Right! Where's yours? And looks across at Betty's copy of the text (Betty should go first because she was the first to read). Kim and Fay strain to see what is going on (below). However, Jill elects to go first, even though Betty's word (**malign**) appears before hers in the text. Jill proposes **shivering** '... Because shivering means cold. Betty agrees and confirms it by reading **I was cold**. By restricting this confirmation to a fragment of the sentence the group misses information earlier in the text that disconfirms this—**summer sun**. Other plausible options (**nervous**, **shocked**) are ignored. Jill places **cold** on the answer sheet.



Target word: *Malign* **Selected:** *evil*

Betty says *I think that malign could be evil.... Or powerful*. Kim suggests she try them out. Betty starts to read the whole target sentence—*Only those who touched it...* Then Jill and Fay interrupt, saying together *It was under an evil spell*. Kim says *Aye! Evil*. Kim places **evil** on the answer sheet.

Target word: *Distractedly* **Selected:** *tiredly*

Right mine! Says Kim, who was the reader of the paragraph containing this target word. All apart from Betty shift their gaze to Kim's text (below), despite the fact that their copies are identical. Jill reads the word **distractedly** correctly. Fay correctly identifies the sense of *distractedly* as 'not concentrating'. Kim proposes **hazily** but Jill challenges this—*What?* There is a pause and Fay discounts obviously wrong answers (**powerful** & **small**). Kim picks up the card marked **hazily**. *Will it not be this one?* She places it on the answer sheet. Fay says *But that.. I don't know what that means*. Jill reads from the text *As she put the heavy carrier...* Fay interrupts and suggests '**tiredly**' which is selected. **Tiredly**, supported by direct evidence in the text, outweighs **hazily** which fits the gist of the story—that the cat has cast a spell.



Target word: *Defenceless* **Selected:** *harmless*

Kim offers an incomplete a priori definition—*Defenceless means like....* And then scans the cards, not the text. Betty proposes **harmless** which is accepted by the group. Kim passes the card to Fay, whose turn it was to solve a word but has said nothing (below).



Fay and Kim go off to get some play dough. Meanwhile Betty and Jill make a start. Betty reads aloud – *...who touched it fell under its spell* – and then starts drawing. Jill starts drawing *'someone cold'*. Both are engrossed by the time the others return.

Fay – *What will I do for harmless?*

Kim – *Just do... I don't know.*

Fay – *A cat with an angel ring round its head* [moves her finger in a circular motion around her head (1)]

Kim – *What can I do?*

Jill – *Just do something on the telly... What could she do for distracted?*

Betty – *Staring. Not looking at him.*

Fay – *It means... Say if it's supposed to be... I don't know. It's got to be doing something he's not supposed to be doing.*

[Teacher A checks on the group's progress]

Teacher A – *Have you decided on the meaning?*

Kim – *No, I just need to know what to draw.*

Teacher A – *Read the paragraph again and get the gist of it and then see if you can draw the picture from that second reading.*

[Teacher A leaves]

Kim – *So what should I put?*

Fay – *The only one that makes sense for distractedly is...*

Betty – *Nervous... tired.*

[Fay, Jill and Betty continue working, ignoring Kim who is waiting for them to tell her what to do (2)]

Kim – *We're supposed to be working as a team here!*

Jill [offended sits up] – *WE ARE!* [Keeps mouth open in protest].

Kim [more quietly] – *I know... I was only joking.*

[Kim tries to help Jill with what she is doing but Jill pushes her hand away (3)]

Kim – *What can I do?*

[Jill tries to help Kim by defining distractedly for her]

Jill – *It must be hazily you know. It must be hazily!* [Nods her head for emphasis]

Betty – *It could be tiredly you know... because the cat. Read it with tiredly in.*

[Kim passes a copy of the text to Fay who reads]

Fay – *Morning Andrew she said tiredly*

Kim – *Aye!...What can I do for tiredly?*

Jill [exasperated] – *Like ... READ THE STORY* [points emphatically at Kim's copy of the text (4)]

Kim [Shouting] *BUT I NEED TO DRAW IT!*

Jill – *READ IT AND THEN FIGURE OUT WHAT TO DRAW!*

Kim – *But I don't know what to draw.*

Fay – *I've done!* [shows the others her work] *My cat is harmless*

Betty – *My cat's really scary.*

Kim – *Fay, help me do this one.* [Kim passes her sheet to Fay]

Fay – *Tiredly...*

Betty – *Do a person who's tired.*

Kim – *Can you do us a person?*

Jill – *You've got to draw it.*

Kim – *But I can't draw* [Kim starts drawing (5)]

1



2



3



4



5



RETELL

Jill's organising of the retell

Jill- Are you ready?

Kim- No, I've just got to...

Fay [To Jill] Who's reading it? Who's retelling it?

Jill- You've got to tell each bit by yourself. You've got to have the word on top.... Right! This is what we do, right? We'll do em [Starts to collect the sheets together. Turns to Betty] Have you finished?

Betty- Yeah

Jill- That one there right [moves sheet] then we'll put them there in a line.

Betty- Can I do the camera.... Cos I've never done it.

Jill- Aye, you can do the camera. [To Kim] Are you done? [Takes Kim's sheet and places it with the others]

1



Betty

Everyone's fallen into a deep spell... evil spell....because every time any one touches the cat they turn

2



Jill

The sun was shining and it was just like the birds were singing and nothing had happened but he felt he was in a dream and he was shivering.

3



Kim

Mum came into the kitchen and Andrew said 'Morning' and then the mum put the heavy bags full of cat food on the table, and there was so much.....

4



Fay

They thought it was an evil cat at first but then it seemed as if it was a defenceless kitten.... And now it's turned into a monster.

Wk 3 Day 4 Grp B	Book marks: Read (0.00-2.25): Make (8.00-24.15):	Solve (3.19-7.46): Retell (25.00-28.00)
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The Improbable Cat (4)

It was stroking that allowed the cat to control the people around it. Only those who touched it would fall under its **malign** spell. I never stroked it because of my **allergy**. Robert was too little to be allowed near the cat, and Billy the dog hates cats so he never goes near them. We were the only members of the family who were not cat slaves!

George and I were now standing in the kitchen. Outside the summer sun was shining brightly and the birds were singing as if nothing had happened and **it had** all been a dream. I was **shivering**.

'You were going to touch it! What were you thinking?' I said.

'I don't know' said Andy. 'I **don't** remember sitting next to the cat. It was so dark in there.'

Outside I heard the sound of car doors slamming. The rest of the family had returned from the shops.

'Morning **Mrs Thomas** said Andy as Mum came into the kitchen.

'Morning Andrew' she said **distractedly** as she put the heavy carrier bags full of cat food down on the table. There was so much of it - enough to last for a **siege**. I wanted to talk to Mum about what had happened but I knew she wouldn't listen. I signalled to Andy that we should go and got Billy's lead.

On the way to the park, Andy and I talked about the 'kitten'. It was obviously **no** ordinary cat - it might not even be a cat at all. If that was true, I was wondering what we had living with us in our house. What at first had seemed like a **defenceless** kitten had now turned into a monster. Where had it come from? **What** was it going to do next?

Things were coming to a head. I had to save the family before it was too late.

Notes


Eve is very hesitant, but is helped by Sue when she struggles with 'allergy'.

Lily reads with more expression and reads the dialogue as a play script. However, she doesn't always read full stops, and so often loses meaning. Sue struggles to read 'Mrs Thomas' and Lily wrongly suggests 'Mrs Thompson'. May, being the strongest reader, probably knew this was wrong but said nothing.

Sue is very careful, in contrast to Lily, and works hard to solve difficult words, e.g. 'siege' and 'distractedly'.

May's reading is fast but this leads to errors that are self-corrected.

Text reading
1 Eve (W10.00/F8.06/NFna)
2 Lily (W9.06/F12.00/NF13.02)
3 Sue (W9.06/F7.07/NF7.07)
4 May* (W11.09/F8.06/NF13.09)
Red: Error Blue: corrected error



Lily's organisation of the transition from reading to solving

Lily- *Right Eve. The first word is...*

[May opens the folder of materials and passes the envelope containing the cards to Sue who opens it (1)]

Eve- *Malign* [malign]

Lily- *We don't have enough space here* [motions with her free hand in frustration (2)].

Lily- [Turns to Sue] *Sorry* [place her free hand on her chest (3)] *But I don't have enough space* [motions with hand for emphasis again, here signalling helplessness (4)]

Sue- *Well, we'll put it there* [points to centre of table (5)]

Lily- *No. Cos I need to do it....* [Holds text out over the space that Sue had indicated (6)] *There you go. Right. Eve, what's the first word?*

1



2



3



4



5

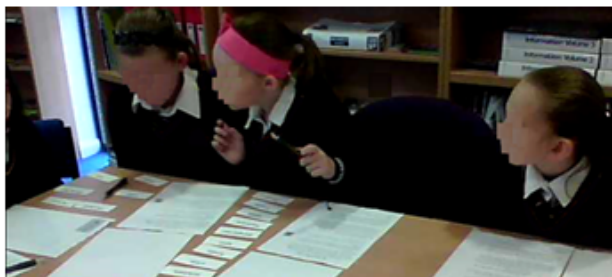


6



Target word: *Malign* **Selected:** *evil*

Lily acts as leader again says *Right! Read the words around it*—circling the target word with her pen. Eve reads the target sentence as instructed and Lily shushes May and Sue who are busy organising the materials. Lily stops Eve's reading by tapping her pen loudly on her copy of the text. She then reads candidates from the cards in random order and with no attempt at selection. Meanwhile Sue and May carry out a search of the text. Lily leans into them, shoving Sue aside, supposedly to better see the cards (below).



Sue and May then make their proposals—'**evil**' and '**magic**'. Lily collects **magic** and **evil** places them next to Eve's text and asks her to check them. Sue gives her justification *Cos the cat's evil*. Lily negates this, turning to her to say—*We don't know that yet* and insists on the need for both options to be checked. Sue looks annoyed and mouths to May *It's evil*. Sue and May are visibly frustrated by this. They ignore Lily's checks and create a diversion by sticking one of the cards to one of Sue's fingers (below). This prompts '*Are you listening?*' and '*Can you stop that cos it's irritating?*' from Lily. Eve's checks fail to separate the candidates. Lily takes both cards and asks for a vote. Sue proposes **evil**, again pointing out that the cat is **evil**—again Lily tells her that they don't know that yet. Sue grimaces and nods to emphasise that, yes they do know that. Lily turns to Eve. *Do you think it's evil Eve?* Eve says yes, so Lily passes her the card to put on the sheet.

**Target word:** *Shivering* **Selected:** *shocked*

Lily starts to carry out a search but this is interrupted by the proposal of '**cold**' by Sue and May. Lily rebuffs this proposal by wrongly claiming that there is no card marked '**cold**'. When proved wrong she quite rightly suggests that there might be something else that fits and counter proposes the candidate '**nervous**'. This is immediately negated by Sue and May. Sue acts out shivering when cold using almost exactly the same gesture as Lily used for hard to breathe the day before. Lily replies *You don't know that though*. Lily check the text and identifies '**summer sun**' in the text as militating against **cold**. Sue and May defend **cold** on the basis of a priori meaning (may says she is cold in summer) and only yield when Lily identifies the correct candidate **shocked** which the challengers reluctantly agree to. At the same time, Sue sticks another card to her finger and starts shaking her hand to try and get it off. The challengers want to move on quickly but Lily insists on a final check—shouting *Wait there!* and thrusting her arm in front of Sue—possibly to establish her victory in this episode. An appeal is made to Eve seemingly to involve her as an ally in the decision. Eve approves and Lily places the card on the answer sheet.

Target word: *Distractedly* **Selected:** *tiredly*

Sue is prompted to concentrate by Lily. Sue reads the target sentence, scans the cards and proposes **tiredly**. She inserts the word into the text and reads the target sentence again. Lily approves it and then asks Eve for her opinion. Eve agrees. Sue places the card on the sheet.

Target word: *Defenceless* **Selected:** *harmless*

May is told to read by Lily. She reads from the beginning of the paragraph to the target word. She then proposes **harmless**. Lily says *Right! Wait there!* And scans her copy of the text. May leans across to show her where the target word is. Lily reads the target sentence and approves **harmless**. As she does so, Sue impatiently repeats *It's harmless!*

Lily has gone to collect the materials that they need for the task.

Eve- *So what do I do? The cat's evil... I need to do an evil cat... which I cannot do!*

Sue- *I need to draw mum with the carrier bags.*

[Lily returns with the materials and remains standing]

Lily- *Right! Wait there! The first sentence...*

[Sue reaches for the dough and Lily snatches it away (1)]

Sue- *Give us it then!*

Lily- *Wait ! [Points to her copy of the text (2)] The first sentence.. what is it about?*

Sue- *I don't know. Just give us it! You've just got to draw something.... You've got to have the problem.... You've got to have the scene.*

[Lily continues stand and hold the dough out of Sue's reach. Sue leaves to get some card to draw on. Lily then sits down, putting the dough under her arm out of sight (3)]

Lily [to Eve] *What you need to do is draw like the cat.*

Eve- *With evil eyes.*

May- *It could have devil horns and a tail! [Laughs]*

Lily [Laughs sarcastically] *Eesh! That's good!*

[Eve attempts to take some dough as Sue returns]

Lily- *No! wait!*

Sue- *I need the play dough man! [reaches for it (4)]*

Lily- [Exasperated] *Well there! [Shoves the tub of dough into the middle of the table.]*

[Lily then sits back from the group and sulks (5)]

1



2



3



4



5



[Lily asks Eve to swap seats with her (6) The group is now divided into two factions. Relations are tense but communication between the two continues]

May- *So I need to draw...*

Sue- *You need to do a scene about harmless.*

[Lily reaches across for the dough. Sue notices this (7)]

Sue [to Eve]- *No! That's for the puppet man! Draw the cat on there!* [Gives Eve the strip of cardboard she collected for this purpose (8)]

Lily- *No! We need the cat for different things as well.* [Picks up Sue's card and sets it to one side] *She doesn't need to use that!*

Sue- *Well you're supposed to! God!*

Lily- *You don't have to!*

May- [Referring to the cards] *One could be for mum and the other for the boy.*

[Sue looks angrily at Lily and mutters]

Lily [to Eve] *Do you want me to do a cat on here?* [Picks up Sue's strip of card]

Eve- *I'll get the red eyes.*

Sue- *Do you know, on the other side you could do like a harmless cat on that side and on the other....*

May- *Like a harmless cat.*

Lily [Starts drawing]- *This one's the harmless cat and then this is your cat Eve.*

[Lily draws. Sue watches her]

May- *Eve, what's your word?*

Eve- *Shocked. How are you meant to do shocked? What am I meant to do?*

Lily- *What your paragraph's about..... There!* [She shows Eve the puppet of the cat she has made that has red eyes (9)]

May [to Sue] *I'll do the dog.*

[Sue continues to stare at Lily. Lily stands up and shows May and Sue her work (10)]

Lily- *Look! The nice cat... the horrible cat!*

[Sue looks but says nothing]

May- *The nice cat could have blue eyes.*

6



7



8



9



10



11



12



13



14



[Teacher A checks on the group then leaves. Lily has finished her puppet and starts to gather together the group's illustrations.]

Lily [Reaching for the sheet that Sue is working on (11)]
I need this one.

Sue - *Get off! I'm still doing it man!*

Lily - I NEED IT!

Sue - YOU!

Lily - *Calm down!* [Retreats]

[Sue continues to draw, and consults the text (12)]

Eve [Turning Sue] - *Who can I draw?*

[Sue and May ignore her (13)]

Lily - *The boy.... No, I'm going to draw the boy. You need to draw his friend.*

Eve - *Andy? No!* [laughs at her mistake and turns to May and Sue. Again they ignore her (14)]

RETELL

1



Lily
That's the evil cat. Eve' you've got to speak
Eve
I don't know what to say
Sue
This cat is very evil!
Eve
They don't like to be stroked cos they are very evil.

2



Lily
He's shivering, and they're standing outside. 'It's a lovely day but I'm a bit nervous. ... I mean shocked. So that's why I'm shaking. Tweet ! Tweet!

3





Sue
Andy says good morning to Mrs Thomas who is carrying her heavy carrier bags. 'Hello And! I'm too tired today.'

4



May
If they stroke the cat they change.

Wk 3 Day 4 Grp C		Bookmarks: Read and Solve (0.00–7.24): Make (8.00–26.50): Retell ((New file) 0.00–0.21)										
R E A D I N G	<p>Notes</p> <p>Rob, who has elected to move from Group D, asks who is reading the first paragraph. He is openly chewing gum. In response, Roy sings 'he's a pervert'. He then continues pulling faces at the camera. He continues to do so as Rob starts reading. Pete ignores him and the text and again busies himself by organising the task materials.</p> <p>When Rob gets to <i>malign</i> he reads it as 'maligirl'. He stops and asks the others what it means. This is usual practice in Group D but is not characteristic of this group. When no one helps him he admonishes Roy 'Read man!' Roy tells him he doesn't want to read and calls him a pervert.</p> <p>Rob notices the mess that Pete is making with the materials and shows him how to lay them out neatly (A). Pete concentrates on solving the target word and Rob continues reading.</p> <p>Roy's reading is slow. He works out challenging words like <i>shivering</i>, which he acts out for the group, but reads <i>know</i> for <i>now</i> and <i>a</i> for <i>the</i>. This suggests he attends to meaning but is not motivated to monitor grammatical sense. Rob notices the camera and hides behind Roy whilst Roy is reading.</p> <p>A teacher then comes and takes a spare text for one of the other groups. Pete says 'I'm shocked!' and Rob play acts shivering. The boys fail to notice that Roy has omitted to read the final four sentences of his paragraph.</p> <p>Roy distracts Pete by holding the voice recorder close to his face. Pete misreads <i>mum</i> as <i>mummy</i>. The others laugh but Pete does not. He loses his place and misses a section of text. <i>Where are you garrrin?</i> asks Rob. Pete continues reading in a quite voice as if to himself, holding the text in front of his face (B). Roy yawns.</p> <p>Rob shirks reading the final paragraph, persuading Pete it is his responsibility. They toss for it and Pete wins but is forced to read anyway. He again reads very quietly as if to himself. The others ignore him and solve the target word 'defenceless'.</p> <p>'Like Pete's defenceless', says Rob whilst spinning the coin. 'You're harmless aren't you?' Roy laughs at Pete and pulls a face. Pete tries unsuccessfully to draw their attention back to the text.</p>	<p style="text-align: center;">The Improbable Cat (4)</p> <p>It was stroking that allowed the cat to control the people around it. Only those who touched it would fall under its malign spell. I never stroked it because of my allergy. Robert was too little to be allowed near the cat, and Billy the dog hates cats so he never goes near them. We were the only members of the family who were not cat slaves!</p> <p>George and I were now standing in the kitchen. Outside the summer sun was shining brightly and the birds were singing as if nothing had happened and it had all been a dream. I was shivering.</p> <p>'You were going to touch it! What were you thinking?' I said.</p> <p>'I don't know' said Andy. 'I don't remember sitting next to the cat. It was so dark in there.'</p> <p>Outside I heard the sound of car doors slamming. The rest of the family had returned from the shops.</p> <p>'Morning Mrs Thomas said Andy as Mum came into the kitchen.</p> <p>'Morning Andrew' she said distractedly as she put the heavy carrier bags full of cat food down on the table. There was so much of it – enough to last for a siege. I wanted to talk to Mum about what had happened but I knew she wouldn't listen. I signalled to Andy that we should go and got Billy's lead.</p> <p>On the way to the park, Andy and I talked about the 'kitten'. It was obviously no ordinary cat – it might not even be a cat at all. If that was true, I was wondering what we had living with us in our house. What at first had seemed like a defenceless kitten had now turned into a monster. Where had it come from? What was it going to do next?</p> <p>Things were coming to a head. I had to save the family before it was too late.</p>										
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Target word: *Malign* **Selected:** *magic*

Rob reads the target word as **malign** and then asks Pete what it means. Pete starts to shuffle the cards, looking at each one in turn. Roy is looking at something happening on the other side of the room. Rob notices this – *Read man!* Roy says he doesn't want to. Pete has continued to shuffle the cards, placing them into a pile on a corner of the table (below).



Rob watches for a while and loses patience. *No man! Look!* He then clears a space on the table and lays the cards out in an array (below). Whilst Rob is doing this, Pete picks up **magic**, asks Roy if he thinks this is correct, then places it on the answer sheet. Roy is not paying any attention as he is thinking about his solution for **shivering** (see below)



Target word: *Shivering* **Selected:** *Shocked*

Rob is distracted, sorting out the cards, and Pete is still deciding about **malign**. Roy reads – **I was shivering** and starts shaking. Still shaking, he reaches across for the card marked **cold** and places it on the answer sheet. Neither of the other boys remark on this.

Later, when Roy reads the text, the boys stop to consider **shivering**. Despite Rob's attempts at organising the cards, Pete gathers them together and starts to deal them out like a deck of cards (below). Roy spots **shocked** and reaches across for it, placing it on the answer sheet and discarding **cold**. Whilst he is doing this, Pete finds and proposes **nervous** but Roy and Rob ignore him.



Target word: *Distractedly* **Selected:** *kindly*

Rob focuses the group – **she said distractedly**. Pete starts to read through the cards at random – *Does it mean harmless.. Powerful?* Rob proposes **kindly** and picks up this card, passing it to Pete. Rob holds it against the text and checks this proposal (below) – **she said kindly as she put the heavy carrier bags...** *Aye I think it's kindly*. Pete places this card on the answer sheet. Roy says *What about number four then* and picks up a card placing it on this answer sheet – *Just guess*. Pete stops him – *We're doing it next!*



Target word: *Defenceless* **Selected:** *harmless*

Pete is reading the text aloud but to himself. Whilst he is doing this Rob goes through the cards and picks **harmless**. He passes it to Roy who places it on the answer sheet.

Attempts at organising the activity

Pete goes to get some play dough. Whilst he's away, Roy looks at the sheets. He considers the sheet for 'kindly' but rejects this in favour of the sheet with the card 'shocked' placed on it

Rob- Roy man!

[Roy checks that Pete has not seen him. Pete returns with the play dough. Roy snatches it off him. Pete snatches it back]

Pete- Oh my god! You've got to read the text! [Roy is drawing and ignores him]. Like, so you're going to go.... [reads from the text] It was stroking that allowed..... Only those would be under it's spell.

We'll put.... [Looks at Roy and sees he is taking no notice] Right then. You're doing.... Right then, I'm doing a person stroking the cat.

[Rob is juggling]

Pete- Rob, you're not at the circus. [Loudly hums some circus music]

Roy- He sounds like a right paedo!

Rob [Looking at Roy's work] What the hell?

What's Roy doing? A shocked face?

[Roy ignores him]

Rob- No man! Look!

Roy- It's a shocked face!

Rob- No man! [Pushes Roy's hands out of the way and places some dough onto the model to improve it. Roy makes no protest]

Pete- Purple eyebrows?

Roy- Look! He's got a mono brow.

Rob [To Pete] Where's the cat?

Pete- I'm making him.

[Roy rolls some brown dough to resemble excrement and places it on Pete's sheet (1)]

Pete- Urrgh! You sicko! A dog turd. OMG

Pete's attempt to focus on the text

Pete [Looking at Roy's work] Yous man! You don't do a shocked face!

Rob- Yes you do!

Pete- You look.... Right [Points to Rob's text (2)] number two right. You read the text right and then...that.... Like the dog was stroking the cat you would put the dog was stroking the cat.

Rob- How could a dog stroke a cat?

Pete- No, well it's just an example.

Rob [Laughs]- How could a dog stroke a cat?

Rob [Points to the cat he has been making] Look!

[Roy takes the play dough 'excrement' and places it next to the rear end of Rob's cat]

Rob- You're on camera. Do you want the cat Pete?

[Roy places the cat that he has made onto Pete's sheet]

Rob- Do you want the cat Pete?

[Roy then destroys Rob's cat (3)]

1



2



3



Teacher C's intervention

Teacher C visits the group, perhaps alerted by the disruption. Teacher C sees that the boys are struggling. She ignores Rob and Pete's complaints and tries to use praise to motivate the boys to work harder.

Pete - Miss. Can you kick Roy out of the group cos he's being disgusting!

[Rob looks at Roy]

Pete - He's doing that and then that [Moves the brown dough backwards and forward near the rear end of the cat model on his sheet]

Teacher C - Just remember boys that everything you're doing is on film.

Pete - I know.

Roy - Ooooooooooh!

Teacher C - What are you making now?

Pete - A cat.

Rob - I made one but they broke it.

Teacher C - They?

Pete - Snapped the legs off.

Roy - I didn't miss. He's telling lies.

Teacher C - [Looking at Pete's work] That's really good - brilliant.

Rob [Looks at Pete's work] Pete? What the hell?

[Teacher C leaves. Roy uses some play dough to simulate copulation]

Pete - Do you know that if you're lying it will be caught on camera?

Roy - I'm making a cat.

Rob - Is that like your excuse?

[Roy has made a phallic shape (4)] - Look!

Pete - Do you know that before we started I moved the camera so that it was just on yours?

Rob - I know... I seen you.

Rob's attempt to focus the group

[Pete is experimenting with green play dough pretending it is snot.]

Rob - Just do it will you! Roy, what are you doing?

Roy - Pervert. I'm Shrek. Here's my candle!

Rob - Here's my earring [Holds ring of dough against his ear]

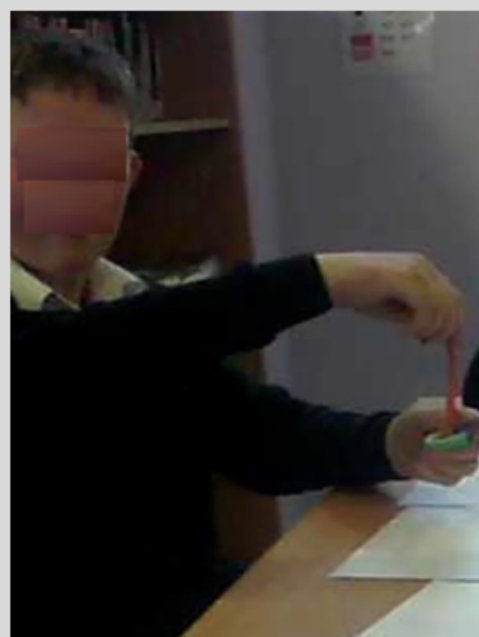
Rob [Looks at Roy's work] Roy, what are you doing?

Roy - I don't know.

Rob [Looking at Pete's work] - The cat's longer than him. Can you not make the cat smaller? See how long yours is? It's a pure monster. It's got green legs and things!

Pete - There. He's stroking him.

4



Pete's attempt to focus the group

Rob- [Shouting at Pete and Roy] *Will you do the work! What's two Pete?*

Pete- *What? What's number two? So then you'd look at number two* [Points to William's text (5)] *and then you could read it. Read it!*

Rob- *No!*

[Roy is using the play dough to simulate copulation again and is grunting rhythmically. Pete again points out that he is on camera. Roy moves the dough so it is closer to the lens and continues (6)]

Rob- *Pete! What shall I do for number 2 man?*

[Pete snatches the dough off Roy to make him stop. Roy retaliates by destroying Pete's work with a pencil (7)]

Pete- *You've wrecked it!*

Rob- *Miss! Get Roy!*

[Teacher C returns]

Teacher C attempts to focus the group

Pete- *Miss- he's being disgusting!*

Roy- *I was putting eyes on for you.*

Pete- *He was poking the cat.*

Roy- *Dirty bugger.*

Teacher C- *Roy, I hope you're not.... You're working really well together. Just keep going! Rob- I know. It's Roy!*

Roy- *What you going to do?*

Teacher C- *Send the tape back to your mum and dad!*

Roy- *My dad? My dad's not alive so....*

[Rob is pretending to sneeze dough out of his nose. Pete picks up the cat that Roy placed on his sheet and throws it at Rob. Roy starts sticking dough up his nose]

Teacher C- *Or your mam then.... Keep going. You're doing really well.*

[Teacher C leaves]

Rob and Pete resign from the group

Rob- *Pete, look at number two. Is that right?* [Points to sheet on which he has been working. Pete starts to read from the text. Roy sneezes some more dough out of his nose]

Rob- *Alright man Roy! Shut up! Pete, what do we need to do for number two?*

Pete- *You need to do two people.*

Rob- *Two shocked faces?*

Pete- *No! Two people.*

Roy- *Two naked people!*

Rob- *So you get rid of the shocked face?*

Roy- *No! You need to keep the shocked face!*

[Rob dismantles it]

Roy- *You need to keep the shocked face!*

Pete and Rob together- *No you don't!*

Roy- *I need a penis!* [makes one (8)]

Rob- *Up your bum*

Roy- *Aye, you're one sick bastard you are.*

Rob [Commenting on the progress he is making] *That's one person.*

Roy- *Starts to dismantle it*

Rob- *I'm not staying in this group. I'm going to tell sir that I don't want to stay here.*

Roy- *No! Howay!*

Pete- *And I want to play over there* [points to Group D's table]

5



6



7



8



RETELL

1



(Pete does the retell)

This is the person that's stroking the cat

2



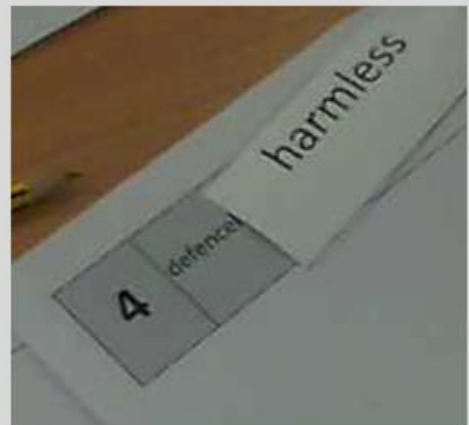
These are the people in the kitchen.

3





And that's the suitcase

4



We didn't get round to doing this one.

Wk 3 Day 4 Grp D		Book marks: Read and Solve (0.00–8.26): Make (8.30–24.46): Retell (25.16–26.20)										
R E A D I N G	<p>Notes</p> <p>Whilst Ali is setting the camera up, Jim lays the materials out in an immaculate array. He then says 'Let's start folks' and shuffles his papers like a newsreader. John, who has decided to move from Group C laughs. A teacher comes over to make sure they are organised.</p> <p>Ali and Jim discuss who is going to read first Jim says he'll do it because Ali went first yesterday. Ali says 'But I like reading'. Jim starts reading and Ali clears his throat loudly. John smiles at Ali and Jim's double act.</p> <p>Jim reads up to 'maligr' which he reads as 'miligr' and then stops to look at the cards in an effort to solve the word. Ali slaps him on the arm and shouts at Jim, telling that the rule is he should finish reading first. Jim accepts this and carries on reading. Ali notices when Jim reads <i>he</i> for <i>we</i> and corrects him.</p> <p>Ali's reading is fluent and shows good expression but he omits words (<i>the, had</i>) and misreads <i>as</i> for <i>and</i>.</p> <p>Jim and Ali then fight for the right to read paragraph three and both start reading over the top of one another. John laughs, possibly because it should be his turn, and Ali eventually gives in. Jim is successful in sounding out <i>dis-tract-ed-ly</i>. Jim reads up to <i>siege</i>, but Ali is shouting over him asking for help from a teacher. He patiently starts again and gets to the same point before he is interrupted again. This time he misses his place and a large amount of text is not read.</p> <p>John reads the final paragraph, but gets as far as 'defenceless before he too is interrupted. Again, the rest of the paragraph goes unread.</p>	<p style="text-align: center;">The Improbable Cat (4)</p> <p>It was stroking that allowed the cat to control the people around it. Only those who touched it would fall under its maliga spell. I never stroked it because of my allergy. Robert was too little to be allowed near the cat, and Billy the dog hates cats so he never goes near them. We were the only members of the family who were not cat slaves!</p> <p>George and I were now standing in the kitchen. Outside the summer sun was shining brightly and the birds were singing as if nothing had happened and it had all been a dream. I was shivering.</p> <p>'You were going to touch it! What were you thinking?' I said.</p> <p>'I don't know' said Andy. 'I don't remember sitting next to the cat. It was so dark in there.'</p> <p>Outside I heard the sound of car doors slamming. The rest of the family had returned from the shops.</p> <p>'Morning Mrs Thomas said Andy as Mum came into the kitchen.</p> <p>'Morning Andrew' she said distractedly as she put the heavy carrier bags full of cat food down on the table. There was so much of it—enough to last for a siege. I wanted to talk to Mum about what had happened but I knew she wouldn't listen. I signalled to Andy that we should go and get Billy's lead.</p> <p>On the way to the park, Andy and I talked about the 'kitten'. It was obviously no ordinary cat— it might not even be a cat at all. If that was true, I was wondering what we had living with us in our house. What at first had seemed like a defenceless kitten had now turned into a monster. Where had it come from? What was it going to do next?</p> <p>Things were coming to a head. I had to save the family before it was too late.</p>										
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The group again solve the words as they read each paragraph, thus interrupting the flow of the story.

Target word: *Malign* **Selected:** *magic*

Phase 1 Jim stops reading at **Malign** which he reads as **malligen**. Ali tells him not to bother decoding the word as it is made up. Meanwhile, Jim scans the cards and proposes **magic**. Ali slaps Jim hard on the shoulder (below) when he realises he is breaking the rules and makes Jim read on to the end of the paragraph before the group attempts the problem word.



Phase 2 Ali insists on reading out the target sentence despite the fact that this is Jim's paragraph to read. Ali then proposes **command** (there is no card marked with this word), whilst Jim repeats his proposal **magic**. John joins in - *Its spell - its magic spell!* Ali checks **magic** and does not challenge it. Ali makes a counter proposal **powerful** and puts his finger on this card. John and Jim repeat their proposal. Then John proposes **evil**. Ali also proposes **evil** and starts to paraphrase the text to justify this - *because you can't go near it...* but Jim insists on **magic**. The dilemma revolves around which noun the adjective '**malign**' refers to. The group are aware that it relates to the **cat (command, evil)** but more strongly feel it relates to the word **spell (magic)**. The regional and local connotations (**magic**) win out over the broader text meaning (**evil**) because the immediately available evidence for the former is stronger (i.e. the children can point to **spell** but the cat's character as evil is only suggested later (**cat slaves**)). Ali concedes. Jim takes **magic** and places it on the answer sheet, partially because he is ambivalent and partially because he is keen to read - *Let me read numero dos!* (The students are missing Spanish to take part in this session).

Target word: *Shivering* **Selected:** *cold*

Ali reads **I was shivering**, looks over at the cards and then says *Meaning I was cold*, and acts shivering to reinforce his proposal (below left)



Ali then snatches this card, cackling maniacally. Jim places his hand on the card to stop Ali - *Wait there!* (above right). Jim holds the text up to his face and traces the target sentence with his finger, checking the fit of **cold**. Meanwhile Ali takes **cold** and places it on the answer sheet. Ali then patters his hands on the table impatiently and snaps at John - *Isn't it cold*. John grins and nods. Ali says *Shivering means cold doesn't it?* and mimes shivering again. Meanwhile Jim is looking through all the cards. Ali says *Right!* and prepares to start reading when Jim points to **shocked** - *I was shocked*. Ali says *No man! Shivering means cold!* and repeats his mime of shivering for the third time. Jim accepts this and tells John to read the next paragraph. The certainty of prior knowledge outweighs the reader's hunch. Prior knowledge is essential in constructing meaning but can also obscure the author's intended meaning.

Target word: *Distractedly* **Selected:** *tiredly*

Ali tries to define **distractedly**, then asks John for a definition. Meanwhile Jim scans the cards. John suggests **annoying**. Ali makes up a definition – *If I'm doing my work and you talk to me, you are distracting me.* As he does this Ali taps John continually on the shoulder, acting out distracting (below)



Ali scans the cards and says *Distracting – that means like you are annoying me...another word for annoying.* Ali says *Eh?* When he can't find any candidates and starts slapping the table impatiently. Ali shouts *Don't say Eh? because it makes it more hard!* John reads from the target sentence **She said....** and then proposes **hazily**. Ali asks *What does hazily mean?* Jim proposes **crisis** but is ignored. John spots **kindly** and leans across the table to point out this card (below).



Meanwhile Ali picks up **hazily** and places it on the answer sheet, despite the fact he doesn't know what it means. Jim takes **hazily** off the sheet – *You can't just put it there,* and places the card near his copy of the text whilst he checks it. Ali complains to John – *Isn't it hazily,* and John agrees. Jim stops his check and places **hazily** back on the sheet. John repeats his proposal of **kindly** and Jim asks him to read it first – meaning John should check this for himself. However Jim reads – **Morning Andrew she said hazily.** Hearing this, John changes his mind. *It's hazily.* Jim carries on reading and reads the whole paragraph, including the reference to **heavy carrier bags**. At this point Ali proposes **tiredly** and places this card next to his copy of the text as he reads it. Ali says *If she said morning Andy, she got up before he got up.* Jim challenges this – *Does it make sense in the sentence though?* Jim reads the text to himself. Meanwhile Ali places **tiredly** on the sheet. John agrees, referring to the **heavy carrier bags**. Ali says *Morning is like 9 o'clock so she probably got up 7, 8, so obviously she's....* Jim interrupts, telling John to read the next paragraph.

Target word: *Defenceless* **Selected:** *harmless*

Whilst John is still reading, Ali shouts **Harmless!** reaches across and grabs the card, places it on the sheet and says *Done!* John agrees. Jim says *Wait there!* Despite the certainty of the selection, Jim insists on carrying out a careful check of its fit with the text before agreeing. Again he holds the text up to his face and uses his finger.

Organising the task

John starts to issue each member of the group with a pencil. Jim takes one and throws the others back, telling John that the group only needs one pencil. Jim takes responsibility for drawing, Ali reads from the text and John is left without a role (1)

Planning and designing- paragraph 1

Jim- *Read the first sentence*

[Ali starts reading to himself, mumbling the words]

John- *I'll just... I'll just....*

Jim- *I'll draw a cat with no one touching it!*

Ali- *No! A person touching it and then a person.. Eyes... you know how their eyes...*

[Ali puts on a blank expression and makes his eyes wide and staring. Ali then points to his eyes and makes a spiral motion with his fingers]

Jim- *Like a devil.*

Ali- *No! Like circles when you look at it.*

Jim- *Like... Like that?*

[Jim draws spirals in the air with his pencil (2)]

Ali- *Give us the pencil*

Jim- *No! [snatches the pencil away]*

Ali- *I'm not going to draw it there.*

Jim- *You mean like this... look!*

[Jim draws on a scrap of paper]

Ali- *No! Look! Look! Look!*

[Ali snatches the pencil] (3)

Jim- *I can draw it properly.*

[Ali draws]

Ali- *See? Like that! You know. When they look like they're moving and they're dizzy.*

Jim- *Oh aye!*

[Ali and John play with the dough whilst they wait for Jim to finish. Teacher A sees this and approaches].

Justifying their approach to Teacher A

Teacher A [to Ali] *Which are you doing?*

Ali- *We're drawing.*

Teacher A- *Get a pencil then.*

Ali- *No.... Jim's drawing, we're explaining cos Jim's the best drawer, so we're explaining it to him.*

Editing and personal experience

Ali- *What's that? You can't draw TVs Jim you know.*

John- *Is that like your TV?*

Ali- *My room... 42 inch. In my room it's 42. Aye! It is. My room's tiny so it looks proper daft.*

John- *Same...my room's tiny as well.*

Ali- *My room's tiny but it's got a massive TV in it.*

John- *That's got all the space.*

[At this point Jim interrupts and asks Ali to approve his drawing for paragraph 1 which Ali does.]

1



2



3



Planning the design for paragraph 2

Ali- *Do some people standing there* [points to Jim's paper (4)] *A window. Outside trees and birds singing. Alright?... And it was like a dream.*

Jim- *Shall I draw a bubble?*

[Jim draws a thought bubble in the air with his finger]

Ali- *Aye*

[Ali puts his finger on Jim's sheet of paper and draws the outline of the bubble (5)]

Ali- *Do a big bubble over both of them so it's coming out their two heads.... Do a tree on the left and then birds and then someone riding their bike.*

Spelling

[Jim asks Ali how to spell Tweet]

Ali- *Tuh- wuh- eh- eh- tuh*

Jim- *Eh?*

Ali- *Look!*

[Ali writes the word out on the table with his finger]

Ali- *Tuh- wuh- eh- eh- tuh*

[Jim then writes in the air with his pencil]

Jim- *Tuh....*

John's attempt to challenge the division of labour

John [yawning]- *Can I draw?*

Ali- *No. I can't draw.*

John- *I can*

Ali- *Can't draw better than Jim!*

The group panic

[The researcher warns the group that they have run out of time and that the other groups are preparing to leave]

Jim- *Number four man! Number four! Number four!*

[Jim taps on the table loudly with his pencil and then taps on Ali's copy of the text]

Ali- *Fuck off! I'm reading it!*

Jim- *Number four!*

Ali- *I'm reading it* [mumble the text to himself]

Jim- *Read it loudly!*

Ali- *I don't know what to do for number four. Read it* [He passes Jim his copy of the text] *It's hard to explain.*

[Jim reads the text and then starts to draw]

4



5



RETELL

1



Ali

The first picture is how they catch the cat and they get into it's evil spell.

2



John

The second one is where he's outside and he's cold.

Ali

How he's dreaming.... Shining brightly and the birds are singing but he was in a dream and he was shivering.

Jim

With his friend in it.

3



Ali


And the third picture is about how they came back from the shops and they go to the kitchen and they find Andy full of cat food on the table.

4



Ali

And the fourth picture is on the way to the park..

Wk 4 Day 1 Grp A		Bookmarks: Read (0.00-2.23): Make (4.00-18.26):	Solve (2.26-3.53): Retell (18.34-19.43)					
R E A D I N G	<p>Notes</p> <p>Betty reads at speed, with the result that she makes frequent simple errors- 'take us' instead of 'take with us' and 'It' instead of 'I'. She stumbles after these errors because her reading fails to make sense grammatically. Instead of fixing these errors she rushes on. Kim and Fay are following the text. Jill ignores the text and arranges the task materials (A). No one interrupts.</p> <p>Both Jill and Kim read very quickly. Jill's reading is accurate but again she fails to read full stops and question marks. This means she loses sense and has to stop and reread sections to regain meaning. This breaks up the reading and makes it hard to follow.</p> <p>Kim makes several errors that she does not correct- <i>lights</i> for <i>light</i>; <i>it</i> for <i>what</i>. Like Jill, this means that she has to stop and reread sections and struggles to maintain the sense of what she is reading.</p> <p>Fay's reading, by comparison, is leisurely and shows good expression. She self-corrects a simple error, showing that she prioritises meaning. She quickly works out 'straggly'.</p> <p>Betty and Kim are chewing gum.</p>	<p style="text-align: center;">The Improbable Cat (5)</p> <p>Later that week we were given a letter to take home from school. It was about the summer camp and explained all the things that we would need to take with us. I was pessimistic about being allowed to go on the trip, but decided to ask anyway. I showed dad the list and asked if I could have some money for a torch. Dad looked really wild. His hair was all over the place and I thought for a minute that he was going to yell at me. Instead he gave me twenty pounds!</p> <p>I couldn't sleep that night for worrying about all the things that had happened since the cat had shown up. I wasn't able to see how I could stop the cat from taking over my family. I could try going to the police or telling the teachers at school but who would believe me? The cat was growing bigger everyday, but there is nothing sinister about a family cat with weight problems.</p> <p>From downstairs I could hear the sound of canned laughter- from the sound of things they were all downstairs in the living room watching a game show on TV. I could imagine the scene. There would be no light on, just a candle or two and the glow of the TV screen. The curtains would be closed and they'd all be gathered around the cat stroking it in the darkness. Sometimes even I had trouble believing what was going on.</p> <p>I looked in on Luke who was asleep in the room next door. He was okay so I went back to bed with a yawn. Outside the shadows were gathering and warm lights glowed in the windows of the houses. Beside me, Billy stirred and a soft growl came from his throat as his paws twitched. I ran my hand through the straggly fur and his back and rubbed his ears.</p> <p>Good old Billy....He believes me.</p>						
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="padding: 5px;">Text reading</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">1 Betty* (W11.09/F16.00/NF16.00)</td> </tr> <tr> <td style="padding: 5px;">2 Jill (W11.00/F12.00/NF8.06)</td> </tr> <tr> <td style="padding: 5px;">3 Kim (W12.06/F10.08/NF9.05)</td> </tr> <tr> <td style="padding: 5px;">4 Fay (W10.06/F9.08/NF13.02)</td> </tr> <tr> <td style="padding: 5px;">Red: Error Blue: corrected error</td> </tr> </tbody> </table>		Text reading	1 Betty* (W11.09/F16.00/NF16.00)	2 Jill (W11.00/F12.00/NF8.06)	3 Kim (W12.06/F10.08/NF9.05)	4 Fay (W10.06/F9.08/NF13.02)	Red: Error Blue: corrected error
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<p>1</p> <p>2</p> <p>3</p> <p>4</p>								

Target word: *Sinister* **Selected:** *suspicious*—selected with no discussion

Target word: *Canned* **Selected:** *fake*—selected with no discussion

Target word: *Gathering* **Selected:** *growing*

Betty says *I know what sinister, gathering and canned is. Sinister is suspicious.. There's nothing suspicious about a cat with weight problems* (Kim places suspicious on the answer sheet—Jill checks it for herself and says *Oh Yeah*). Betty then says *Canned is fake.. I could hear the sound of fake...* (Kim checks this for herself and places the card on the answer sheet) Betty then explains that **gathering** means **growing**. Jill checks this by reading **Outside the shadows were growing**. Instead of placing **growing** on the answer sheet herself, Kim gives it to Fay whose turn it was to solve this word. As she passes Fay the card (below) Fay says *And the first one will be...* The first word (**pessimistic**) is by rights Betty's, but Betty has broken the rules for dividing up the task by solving everyone else's words in one go. Nevertheless Kim frowns at Fay and holds her gaze for a couple of seconds to warn her off. Fay has to stand so she can reach across and place the card on the answer sheet. She has said nothing up until this point.



Target word: *pessimistic* **Selected:** *not sure*

Betty suggests **dangerous** and checks it herself. The group pause, unsure. Kim, pointing at the cards, suggests a strategy (below) - *Pick the one that you think it is and then try and get it in between.*



Jill reads *I was happy about being allowed to go on the trip*. There is a pause as the group consider this. Then she continues ... *but decided to ask anyway*. The group pause and begin scanning the cards again suggesting that they agree **happy** should be rejected. Kim points to **not sure**. She and Fay then insert this word into the text - **I was not sure about being allowed to go on the trip but decided to ask anyway**. Kim says **Not sure** and in a reversal of the usual course of events she passes Betty the card.

I thought of that! She says.



Organising and focusing the task

(This initial phase demonstrates the groups almost total reliance on Betty, despite the fact that all can read the text and all still have a copy of it).

Betty- *How do you draw a newsletter?*

Fay- *I'm doing growling!*

Kim- *Growing!*

Fay- *I mean growing.*

Betty- [To Fay] *You could do some clouds and then getting bigger and bigger.*

Jill [To Betty] *What can I do for suspicious?*

Kim [To Betty] *What can I do for fake?*

[Fay, Jill and Kim wait until Betty can deal with their queries (1)]

Jill [Tapping pencil on her hand watches Betty drawing]

What are you doing with the newsletter?

Betty [Points to her copy of the text]

Fay- *I could do a flower getting bigger and bigger and bigger.*

Jill [To Betty]- *What could I do?*

Betty [Scans her copy of the text. She scans the paragraph that Kim is illustrating, not the paragraph Jill is asking her about] *Draw a telly and like a candle at one side of the telly and a candle at the other side and a settee with people sitting on it.*

Jill- *What about. No, cos it says er* [consults text]

'There is nothing suspicious about a cat with weight problems'

Betty- *Uh huh!*

Jill [Starts drawing]

Kim [To Betty]- *What can I do?*

Betty [Looks at text and realises mistake] *Oh, that's*

Kon's [Turns to Kim] *Do a telly with like candles and a settee with people on it.*

Jill- *You just told me that!*

Betty- *I know. I told you the wrong one by accident.*

Jill- *I've done it wrong* [Sits up and puts hand to face.

Kim has a look of shock on her face (2)]

Kim- *I'll go and get a rubber.*

Fay- *I need a rubber too because I've done it too small.*

Jill [Puts head on table (3)] *I can't believe....*

[Kim leaves and Jill waits for her to return. Whilst Jill is unoccupied, Fay takes the chance to get some feedback on her picture]

Fay- *Never mind, look at mine.* [Shows Jill what she has been drawing]. *That's a flower.. But it's too small.*

Jill [Frowns and extends hand towards Fay (4)]- *It's got to have something to do with the story though.*

Fay- Betty. *What can I do?*

[Betty carries on drawing]

Fay- Betty. *What can I do?*

[Kim returns with the rubber. Jill takes it and starts erasing her drawing]

Betty- *Um... um... clouds*

Fay- *No, but it has to have something to do with the story.*

Betty- *Uh huh!* [Looks again at text]. *Shadows* [waves fingers] *Shadows getting bigger and bigger and bigger.*

1



2



3



4



For the rest of the task the girls work steadily on their illustrations and discuss trips to the local shopping centre and the colours that they need to complete their work. There is one episode of monitoring that happens around two thirds of the way into the task:

Jill- [Sits back to look at her picture of the cat (5)].
There! Fat cat!
 Fay- *The cat's not fat though.... It doesn't say that.*
 Jill- *Yes it does! It puts weight on.*
 Betty- *Well it doesn't really....*
 Jill- *But it says that, look...*
 Betty [Looking at her copy of the text]- *Growing bigger everyday... er Fat cat!*

5



RETELL

1



Betty

He got a newspaper from school and it was about going on a trip. To summer camp and he wasn't sure that his dad would let him go. And he asked his dad for some money for a torch and his dad gave him £20 for a torch.

2



Jill

He was not sure about... he was going to try and phone and tell the teachers at school about what happened to the cat and then he said that the cat was growing bigger and bigger everyday... that it was putting weight on and had problems and it was suspicious.

3



Kim

From downstairs I could hear fake laughter from the telly and they're watching a game show.

4



Fay

The room next door and the windows were gathering light and the shadows were growing from outside.

Wk 4 Day 1 Grp B

Book marks: Read (0.00-3.28):

Solve (3.35-8.36):

Make (9.00-23.00):

Retell ((New file) 0.00-3.06)

R
E
A
D
I
N
G

Notes

Lily is absent and May takes her place in the middle of the table. Eve – I want to read number three this time. Eve then allocates paragraphs to the other girls which they accept.

May's reading is fast, meaning she sometimes reverses the order of words – *really looked* instead of *looked really* and *next room* instead of *room next*. She is interrupted half way through by Sue who wants her to smell the play dough. Sue and May laugh at the part of the story where dad's hair looks really wild. Eve does not laugh.

Sue uses her finger to monitor one to one correspondence in her reading of the text (A). Meanwhile May starts to arrange the materials, ignoring the text. Sue corrects errors for grammatical sense. Her substitution of *growl* for *growing* shows again that she is attending to the meaning of the story.

Eve's reading is slow and accurate, with the occasional pause to confirm a word that she is not sure about. Whilst she is reading, the other girls make a start on the task, ignoring her (B).

When May reads the final paragraph, Sue stops playing with the cards and pays close attention again laughing, this time at the phrase *straggly fur*. Eve's attention is focused away from the text and onto the materials, possibly rehearsing her contribution to the coming discussion (C).

The Improbable Cat (5)

Later that week we were given a letter to take home from school. It was about the summer camp and explained all the things that we would need to take with us. I was **pessimistic** about being allowed to go on the trip, but decided to ask anyway. I showed dad the list and asked if I could have some money for a torch. Dad **looked really** wild. His hair was all over the place and I thought for a minute that he was going to yell at me. Instead he gave me twenty pounds!

I couldn't sleep that night for worrying about all the things that had happened since the cat had shown up. I wasn't able to see how I could stop the cat from taking over my family. I could try going to the police or telling the teachers at school but who would believe me? The cat was **growing** bigger everyday, but there is nothing **sinister** about a family cat with weight problems.

From downstairs I could hear the sound of **canned** laughter – from the sound of things they were all downstairs in the living room watching a game show on TV. I could imagine the **scene**. There would be no light on, just a candle or two and the glow of the TV screen. The curtains would be closed and they'd all be gathered around the cat stroking it in the darkness. Sometimes even I had trouble believing what was going on.

I looked in on Luke who was asleep in the **room next** door. He was okay so I went back to bed with a yawn. Outside the shadows were **gathering** and **warm** lights glowed in the windows of the houses. Beside me, Billy stirred and a soft growl came from his throat as his paws twitched. I ran my **hand through** the straggly fur and his back and rubbed his ears.

Good old Billy....He believes me.

Text reading

1 May* (W11.09/F8.06/NF13.09)

2 Sue (W9.06/F7.07/NF7.07)

3 Eve (W10.00/F8.06/NFna)

Red: Error Blue: corrected error

A



B



C



Target word: *pessimistic* **Selected:** *not bothered*

Sue starts the session as Lily usually does. Right! Number One, where's the word... and searched the text with her finger. She puts her hand on not bothered and reads – I was not bothered about going on the trip. Sue then tries not happy but rejects it Cos you would be happy wouldn't you? It is puzzling that this same logic was not applied to negate the candidate **not bothered**. May proposes **not sure** and reads I was not sure about going on the trip. Sue takes both cards, holds them together and shows them to Eve, (below). Eve selects **not bothered**. May tells her to put that card on the sheet. Sue places it on the answer sheet. The correct candidate '**not hopeful**' is ignored'.



Target word: *Sinister* **Selected:** *suspicious*

Sue says *I know what this one is. Suspicious. There's nothing suspicious about a cat with weight problems.* May laughs *Fat cat!* Sue places the card on the sheet.

Target word: *Canned* **Selected:** *loud*

Sue searches the text and reads with her finger – **I could hear the sound of canned laughter.** May selects **spooky**, holds the card to her text and reads – **spooky laughter.** Sue proposes **loud laughter.** May proposes **silly laughter**, collecting all three cards together. Sue proposes **happy** but decides it doesn't make sense. May proposes **fake**. Sue reads **From downstairs I could hear the sound of spooky laughter.** Sue asks May to read it. May does and reads the entire sentence, substituting **spooky** for **canned**. May proposes **fake** again but is unsure. She then proposes **loud** again. May reads the whole sentence, substituting **loud**. She does the same with **shrinking**. *Shall we leave this till last?* says Sue. They move on to **gathering**. When they resume the pair all the available words with laughter, laughing at some of the combinations they come up with. May considers **growing** or **shrinking** but Sue points out **shrinking** has been allocated. Sue says impatiently *I don't know what it is!* May suggests creating a *top five*. *I think it's loud me actually,* says Sue, tapping her hand on the table impatiently. May places **loud** on the answer sheet.

Target word: *Gathering* **Selected:** *shrinking*

Sue asks what **gathering** means and then holds her hands to her chest in a gesture that models gathering. Eve, who has said very little so far, stands up and leans over. (below). *Gathering means like when they were standing around looking at the cat,* she says, referring to the first part of the text read last week. Sue reads **Outside the shadows were...** May proposes **shrinking** and, unlike previous checks, reads the entire sentence. Sue repeats **Outside the shadows were shrinking** and then does the same with **dangerous**, rejecting this and throwing aside the card. They appeal to Eve who gives no opinion and place **shrinking** on the answer sheet. They return to **canned**.



Allocation of resources

Sue takes charge of the play dough. She doles out portions to May and then Eve. Sue's lump of dough is significantly larger than those she gives to the other two.

Sue - *I'll get some play dough for everyone.*

[Breaks off a piece and gives it to May]

May - *Mine looks like a cat!*

[Sue passes some to Eve]

Sue - *And one piece for me*

Eve - *Mine looks like a lolly* [May ignores her]

Sue [Laughing] *Only joking. I'm doing two* [pictures].

Eve - *Mine looks like a lolly.*

[May turns and looks but says nothing]

(There is a short period where the girls sort out the dough and paper they will be using. Then there is a period where they try to agree how they will each reconstruct the story).

Sue - *What does suspicious mean?*

May - *Like...*

Eve - *How do I do loud?*

May - *Erm... a megaphone!*

Eve - *Oh! I know!* [Starts making something]

Sue - *No. Listen to this right. You have to do... stuff in your paragraph not just... that.*

Eve - *Oh, right.*

[Eve and May reach for copies of the text that they can refer to. However neither of them subsequently reads them at this point]

Sue - *What's number 1? Not bothered? So what would you do for not bothered?*

Eve - *Erm... sitting round.*

Sue - *You don't so the men, you only do the scene cos we've asked for puppets.*

[Sue is referring to the fact that the dough is for building sets for the puppet show, not the figures for the characters - these will be made from card. Eve and May nod to show they understand. Shortly afterwards, Sue and May leave to get some purple dough from another table. Whilst they are away, Eve reads her copy of the text. As soon as the others return she sets the text aside]

May nod to show they understand. Shortly afterwards, Sue and May leave to get some purple dough from another table. Whilst they are away, Eve reads her copy of the text. As soon as the others return she sets the text aside]

Eve - *What can I do for this one?*

Sue - *Just do something loud!*

Eve - *Oh, I know!* [Moves the text out of the way]

Should I do a microphone... Should I?

Sue [Singing] *If you want.*

Eve - [Sighs] *I need a pencil* [Sighs]

Sue - *Well get one!* [indicating the pencils on the other side of the table] *What's wrong with your legs woman?*

Sue [Turning to May] - *What's that?*

May [Who is working on an image of 'shrinking shadows'] *The sun getting smaller. It's all I could think of.*

1



2



3



4

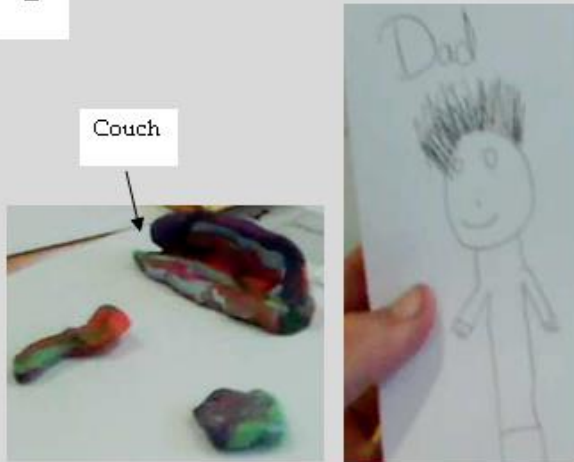


5



RETELL

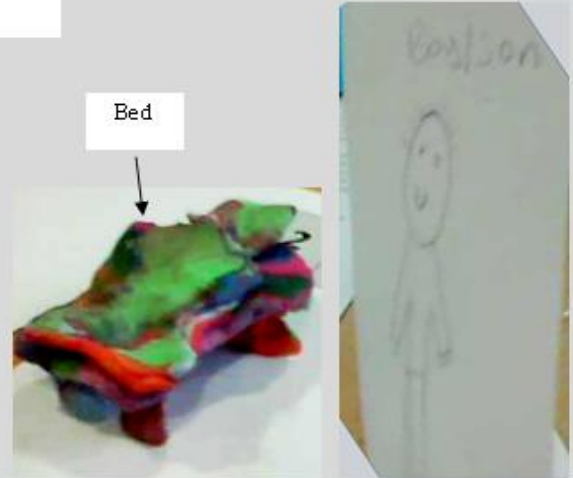
1



Sue

Where's the dad? Oh man! Sit on the couch! Dad is not bothered. [Puts on squeaky voice for puppet of boy] Can I have 20 quid for a torch? [Deeper voice] Here! [Squeaky voice] Thank you! I got a torch.

2



May

His bedroom. That cat changes everything! Mum and dad aren't bothered anymore. He's much healthier than us cos he eats everything!

3



Sue

[Both May and Sue laugh for quite some time] Are they even supposed to be laughing? Yeah? Dad's laughing at the telly [Both laugh again] Right. Next bit.

4



Sue

Shrinking....Shrinking?

May

The shadow's outside are shrinking. They get smaller [close up of ball] then smaller [close up of next ball] and then even smaller than a pea!

Wk 4 Day 1 Grp C

Bookmarks: Read and Solve (0.00-9.21):

Make (9.35-21.20):

Retell ((New file) 0.00-0.39)

READING

Notes

Sam reads first. He misreads *with us* for *whistle*. Pete helps him with *pessimistic*, which Sam repeats several times until he can say the word fluently. Then he leads the group in solving the word. When they have finished, Roy mistakenly thinks that it is Ned's turn to read, banging his fist on the table and instructing him to start (A). Sam says 'Nah it's me man!' and resumes reading the first paragraph. At the end, he remarks that £20 is a lot for a torch.

As Ned starts to read, Sam leans over and places the voice recorder right next to him and gives him a warning look (B). Roy and Sam look at the camera and then begin a conversation in lowered voices, ignoring Ned. Pete helps Ned to solve *weight*.

Pete's reading is interrupted whilst the group solves *canned*. When they have finished, Roy starts reading paragraph 4, but Pete complains he hasn't finished paragraph 3 yet. Ned has his head in his hands but says nothing. Roy starts to read the first two sentences of paragraph 4, but Sam quickly takes over and reads them for him, using his finger to ensure this is done accurately (C). Roy then repeats the sentences. Meanwhile Pete stops reading at *would be* and gives up on the rest of paragraph 3.

Sam and Roy do not read beyond the target word *gathering* and omit the rest of paragraph 4.

The Improbable Cat (5)

Later that week we were given a letter to take home from school. It was about the summer camp and explained all the things that we would need to take **with us**. I was **pessimistic** about being allowed to go on the trip, but decided to ask anyway. I showed dad the list and asked if I could have some money for a torch. Dad looked really wild. His hair was all over the place **and** I thought for a minute that he was going to yell at me. Instead he gave me twenty pounds!

I couldn't sleep that night for worrying about all the things that had happened since the cat had shown up. I wasn't able to see how I could stop the cat from taking over my family. I could try going to the police or telling the teachers at school but who would believe me? The cat was growing bigger everyday, but there is nothing **sinister** about a family cat with **weight** problems.

From downstairs I could hear the sound of **canned** laughter - from the sound of things they were all downstairs in the living room watching a game show on TV. I could imagine the scene. There would be **no light on, just a candle or two and the glow of the TV screen**. The curtains would be closed and they'd all be gathered around the cat stroking it in the darkness. Sometimes even I had trouble believing what was going on.

I looked in on Luke who was asleep in the room next door. He was okay so I went back to bed with a yawn. Outside the shadows were gathering and warm lights glowed in the windows of the houses. **Beside me, Billy stirred and a soft growl came from his throat as his paws twitched. I ran my hand through the straggly fur and his back and rubbed his ears.**

Good old Billy....He believes me.

Text reading

1 Sam (W11.00/F10.08/NF13.02)

2 Ned* (W11.03/F8.06/NF13.09)

3 Pete* (W11.03/F10.05/NF7.02)

4 Roy (W7.05/F13.05/NF15.11)

Red: Error Blue: corrected error

A



2

4

1

3

B



C



Target word: *Pessimistic* **Selection:** *not bothered*

Sam leads the testing of proposals by reading up to the target word, but not beyond it. Key information suggesting **not hopeful** as a candidate (e.g. **but decided to ask anyway**) is missed. He rejects Pete's suggestion of **fake** after testing it. Sam then suggests **not bothered**. Ned makes a more plausible proposal **not sure**, but this is rejected by Roy who pulls a face, bangs his fist and says Eh? (below). Meanwhile Pete picks up the card marked **not bothered** and places it on the answer sheet, despite the fact that it has not been tested.



Target word: *Sinister* **Selection:** *bad*

Searching and checking is again limited to the sentence in which the target word is placed. Sam uses his finger to establish the accuracy of these limited checks. This means that Pete's grammatically implausible candidates (e.g. **growing, happy**) can be rejected, but leaves the group unable to separate candidates that are plausible using just this information (e.g. **dangerous, bad**). **Suspicious** is proposed by Sam when he overhears Ali in Group D proposing it. After it is checked, **suspicious** is placed on the answer sheet by Pete. Sam insists that **bad** is also placed on the answer sheet despite Ned's assertion that **suspicious** sounds better. Sam smiles at Ned to placate him. Roy and Sam monopolise the discussion whilst the other two wait for them to make a decision (below). Pete suggests that they settle the dispute with a vote but he is ignored. In the end no decision is possible – Ned says to Sam *It's so annoying isn't it?* Sam agrees and says *Forget it!* The dilemma is forgotten until much later when Sam selects **bad** whilst the others are distracted.



Target word: *canned* **Selection:** *loud*

Ned places **loud** on the answer sheet whilst Pete is still reading. Pete stops reading and Sam confirms **loud** by reading the whole sentence again with this word inserted. He then nods his approval and motions for the group to move on.

Target word: *Gathering* **Selection:** *spooky*

Sam initially proposes **growing**, but a check leaves him unsure. Roy lists all the candidates by reading them off the cards. Sam (and Roy) test candidates that fit the supernatural theme of the story (e.g. **dangerous & spooky**) but only through close reading of the target sentence and not through reference to the paragraph as a whole, whose theme is oncoming night. They select **dangerous** and then, pointing to the voice recorder, they start a conversation in hushed voices that ends with Sam pulling a face at Pete. Pete feigns to strike him and Sam punches Pete in the face (below). Afterwards, whilst the others are distracted, Sam places **Spooky** on the answer sheet and 'acts' spooky by making ghost noises.



Sam takes over Roy and Pete's work

Sam-What you doing?

Roy- Loud.. I'm doing loud

Sam- Like echoes? Echo location!

[Sam starts to help Roy, sticking pieces of dough onto the sheet]

Sam-What you doing? That's too close you too!

Roy [Inaudible]

Sam- So? You squashed it.

[Roy places some dough on the sheet. Sam takes it off again and discards it (1)]

Sam- You do another one!

[Roy pauses, takes another sheet and then moves to a position that is off camera. Sam finishes the model that Roy started]

Sam- Look at the third one miss!

Teacher B- Have you put your words on boys?

Pete- We can't....

Sam- Look... it's something getting louder.

Pete [Pointing to his work]- I did the letter. The letter that....

Sam [Looking at Pete's work]- What are you doing?

Teacher B- Is that for paragraph one? Are you reading a paragraph each today?

Sam [To Pete]- What are you doing? Why've you done that?

Pete [Appealing to teacher]- You do it like that don't you?

Teacher B- I'm not sure, but weren't you supposed to be reading a paragraph each?

Ned- Yeah. We have.

Teacher B- Do they all match up?

Sam- Yeah.

Teacher B- So as far as you're concerned when paragraph one is read out it will match with the picture on here [points to Pete's sheet]

Sam- Yeah.

Teacher B- OK

Sam- But what could I draw?

Teacher B- What?

Sam- What could I draw for 'not bothered'?

Teacher B- Someone doing this?

Sam- No. Someone standing there like that [pulls bored face]

Pete- Just do a face and then just...

Sam- Look at our colours. They've all been messed up.

Teacher B- Yes they have, but you can still get something in place for [paragraphs] one and two. Three [the picture Sam completed for 'loud'] looks good and four [Roy's picture for paragraph four] is coming along nicely.

[Teacher B leaves]

Sam- I'll do them

Ned- Do what?

Sam- I dunno.

Roy [Inaudible]

Sam- Shut up man or I'll slap ya!

Roy [Inaudible]

Sam [Picks up sound recorder and throws it towards Roy] Say that out loud.

[Roy throws the recorder back towards Sam]

Sam- Give us a bit of this [Sam grabs some dough off Pete]. I'm going to make a person.

Ned- A person 'not bothered'?

[Sam nods]

Pete- No! I am!

Sam- No, I am. You don't even know what you're doing.

Roy- He's just banging the table the tit.

1



2



Sam [Looking at Ned] *You've got to give them arms man. You've got to give them legs.*
 Ned [To Pete who is still working on his own picture for paragraph one] *That could be his body. Depending how big his body is.*
 Sam [Holding up the figure he has made] *I've made a 'not bothered' person!* [Sam leans over and fixes the figure on the sheet for paragraph one that Pete has been working on (3)] *This one's 3D!*
 Pete - *Does he stand up?*
 Sam - *Yeah.*
 Pete [sarcastically] - *Does he really?*
 Sam - *Aye!* [Stabilises the figure] *He does now!* [Shouts] *I made a 3D dude!*
 [Pete deliberately shakes the sheet so that Sam's figure collapses. Sam sees this and punches Pete in the side of the face (4). Pete flinches but laughs it off]
 Sam - *You've killed me dude! It's loads better than yours!* [Pete then dismantles Pete's work (5)]
 Pete - *Don't do that man! Oh well.....*
 Sam - *It looks like you've done a turd on the paper. Someone stood in it. Look what you've done! You've marked the sheet you spanner!*
 Sam [Shouts to Ali in Group D] *Look Ali! Come and look at my 3D person!*
 Ali [Off camera] - *Who made that?*
 Sam - *Innit good?*
 Pete - *Nah!* [Throws some dough at Sam's figure. Sam punches him again (6)]
 Rob - *Urrgh! How've you made that colour?*
 Sam - *It was like that when we got it.*
 Rob - *I don't think it's meant to be that colour.*
 [Rob and Ali return to Group D]

Sam takes over Pete's work and eavesdrops on Group D
 [Pete has been making a picture for paragraph three, the target word for which was 'sinister']

Sam [Holding up a piece of dough] *There! There's the cat!*
 [Sam dismantles Pete's work and places it on the sheet (7)]
 Pete - *Why're you doing that?*
 Sam - *Cos we've forgotten the bad thing.* [Replaces the card marked 'bad' on the sheet. Sam sits down. Pete removes Sam's model from the sheet]
 Sam - *Nah man! We've got to read it man! Is this number one?*
 [Inspects sheet] *Number two.* [Sam gets a copy of the text and starts to read the text to himself]
 Ali [Group D] - *No man! You're supposed to draw... a big fat cat.*
 Sam - *Sinister. That means fat* [Shouts] *We've got to do a fat cat!*
 Rob [Group D] - *What're you copying us for?*
 Sam - *I'm not! I've just read it!*
 Ned [reading from the text] - *There's nothing fat about a family cat....* [Laughs]
 Sam - *Eh?* [Reads from text] *There's nothing bad about a family cat with weight problems.... But it says it's fat..* [Reads from the text] *The cat was growing bigger everyday. Aye... With weight problems. So it's fat.* [Grins at Ned. Ned grins back]
 Sam - *It's like Garfield* [Sam gets up, turns the camera off and then goes across to Group D]
 [N.B. Ned makes nothing throughout the entire length of the task]

3



4



5



6



7



RETELL

1



(Ned retells the story)

This one's about a boy who's not bothered about going on a trip.

2



The cat is not bad because it is fat.

3



They can hear the loud laughter from the parents

4



It's someone scared. It's spooky.

Wk 4 Day 1 Grp D

Book marks: Read and Solve (0.00-12.14):

Make (12.30-25.00): Retell (25.45-26.46)

READING

Notes

Ali sets the camera up and does the best he can to fit all members in. Jim has arranged the materials around himself immaculately. There is no discussion about reading order.

Ali reads fluently but with little expression. He solves *poss-pessimistic*. He makes an error at *but decided*, reading it as *about deciding*. It is likely that his stumble at *showed* is because he has noticed this and is undecided as to whether to correct it or not. In the event he ignores the error.

John reads slowly and uses his finger as a guide to monitor one to one correspondence (A). He accepts Ali's sotto voce corrections for *talking/taking* and *sinister* which he stumbles through.

Rob reads fluently but again with little expression. He omits *and* but this doesn't really affect meaning and he ignores the error. He stumbles at *believing* and Jim prompts him with the correct reading of the word. Rob accepts the correction.

Just before Jim reads, Rob comments that it is now *half past* and they only have *ten minutes*. Ali prompts Jim to get going. Jim starts *I looked at the* and Ali corrects him *I looked in on Luke*. Jim accepts this and repeats the phrase. Jim then stumbles on *room next door* but self corrects this. Jim pauses at *yawn* and Ali prompts him with the word. Jim accepts. He reads on but misses the full stop (*) breaking the rhythm of his reading. From now on the text is read a word at a time, making it hard for Jim to monitor for sense. He misreads *house* for *houses* and again Ali corrects him. Jim is working very hard. He misreads *as his* as *as this* and reruns the phrase several times before getting it right. By now Ali is impatient and when Jim struggles with *straggly* Ali reads the remainder of the text for him. Jim accepts this. Despite the time pressure, Ali gives Jim a short tutorial (B):

Jim man. You should stop at full stops you know and take a breath. Cos you read like this (reads the text in a staccato monotone). You should read 'yawn' and then 'Outside the shadows were gathering'.

Jim starts to follow Ali's model but then Ali shout over him, encouraging the others to help him define *gathering*.

The Improbable Cat (5)

Later that week we were given a letter to take home from school. It was about the summer camp and explained all the things that we would need to take with us. I was *pessimistic* about being allowed to go on the trip, *but decided* to ask anyway. I *showed* dad the list and asked if I could have some money for a torch. Dad looked really wild. His hair was all over the place and I thought for a minute that he was going to *yell* at me. Instead he gave me twenty pounds!

I couldn't sleep that night for worrying about all the things that had happened since the cat had shown up. I wasn't able to see how I could stop the cat from *taking* over my family. I could try *going* to the police or telling the teachers at school but who would believe me? The cat was growing bigger everyday, but there is nothing *sinister* about a family cat with weight problems.

From downstairs I could hear the sound of *canned* laughter- from the sound of things they were all downstairs in the living room watching a game show on TV. I could imagine the scene. There would be no light on, just a candle or two and the glow of the TV screen. The curtains would be closed *and* they'd all be gathered around the cat stroking it in the darkness. * Sometimes even I had trouble *believing* what was going on.

I looked *in on Luke* who was asleep in the *room next door*. He was okay so I went back to bed with a *yawn*. * Outside the shadows were *gathering* and warm lights glowed in the windows of the *houses*. Beside me, Billy stirred and a soft *growl* came from his throat *as his* paws twitched. I ran my hand through the *straggly fur* and *his back* and rubbed his ears.

Good old Billy....He believes me.

Text reading

1 Ali (W11.00/F12.00/NF13.02)

2 John* (W10.00/ F7.07/ NF7.02)

3 Rob* (W10.09/F12.10/ NF16.00)

4 Jim (W8.00/F7.07/NF9.05)

Red: Error Blue: corrected error



Target word: *personistic* **Selected:** *not happy*

Jim's proposal (**not sure**) is plausible because the paragraph is about the main character's doubts about the trip given the state of his family at the time. Jim is the only member of the group looking at the text. Ali's proposal (**not happy**) possibly derives from a priori knowledge of the word or may stem from the theme of the main character's unhappy situation. Ali checks **not happy** and picks this card up. Then Rob proposes **not bothered**. Ali negates this – *But he was bothered*. John again proposes **not sure**. Ali reads from the text **I was not happy about not** [Ali stops and corrects this error] **being allowed to go on the trip**. Rob repeats his proposal of **not bothered** but Ali negates this again – *He wants to go! So it's not happy*. Jim takes the card off Ali and checks **not happy** and realises that, like **not bothered**, this also does not fit – *Being allowed to go – that means he's going!* Says Jim (below)



Ali grins, suggesting he knows Jim is right, but continues to defend his candidate – *He's not happy with the decision*. Ali hands the card to Jim and tells him to put it on the sheet – *Are you all happy?* No one challenges the decision. Jim places the card on the sheet.

Target word: *Sinister* **Selected:** *suspicious*

Ali starts with a search, reading the target sentence aloud. The group's checks and searches quickly identify **shrinking**, **spooky** and **silly** as inadequate. The dilemma starts when **bad** is proposed by Rob alongside **dangerous** which is proposed by Jim. At the same time **suspicious** is also proposed by Ali. The difficulty is that the group are unable to substantiate or justify these intuitive choices beyond their restricted searches, only reading a portion of the target sentence. This strategy ignores information earlier in the paragraph that points to **suspicious** – **Who would believe me?** Hence their final selection is arbitrary, with the dilemma minimised by means of an election – Rob says *Well John, it's up to you, suspicious?* and holds the card up so John can see it. John says *Aye... Probably* and Rob places the card on the sheet.

Target word: *Canned* **Selected:** *loud*

Ali again leads with a reading of the target sentence. The dilemma starts with Ali's proposal of **loud** which is plausible in terms of the story (**the TV could be heard from upstairs**). Ali picks up this card and places it next to his copy of the text. **Loud** competes with Rob's candidate **silly** that is also plausible according to the sense of the story (**TV game show**).

Jim proposes **spooky**, justifying it by saying – *It's about the cat!* Rob says 'Aye' and follows with another candidate the follows this supernatural theme – **unlucky**. Jim proposes **dark**. Ali pulls a face to suggest he doesn't agree with this strategy and proposes **happy** or **loud** again. Both more fittingly describe a mundane TV game show. Ali reads the target sentence and the sentence following this in order to check **loud**, then concedes that it might be **spooky**. At this point Jim proposes **fake** but is ignored. Ali reads both sentences, this time checking **spooky**. Rob then proposes **loud** or **happy**. Jim proposes **happy**, but Ali motions to place **loud** on the sheet. Jim stops him, again proposing **happy**.

Rob suggests *Put both*. John says *You can't do that*, but Rob nods suggesting they can. Jim justifies **happy** – *Cos they're watching the football game*. Rob and John correct him, telling him that it is a game show on TV. All this time Ali taps his finger impatiently on the card marked **loud**. There is a long pause as Jim scans the text. Rob says *It could be anything*. Ali motions to place **loud** on the sheet but Jim stops him again – *No man – we've got to read it first!* Ali complains *We have. You're wasting your time!* Ali puts **loud** on the sheet and seeks to placate Jim – *We'll do it at the end if you don't think it is... If there's still time*. Jim assents.

Target word: *Gathering* **Selected:** *spooky*

This time Jim leads with a reading of the target sentence. Ali shouts over him asking what **gathering** means. John proposes **dark** or **spooky**. Rob then proposes **growing**. Again, the dilemma centres on a conflict between story sense and a priori meaning. **Spooky** is inspired by the story – Ali says *Lights glowed in the windows* – but also draws on the wider supernatural theme. Ali gestures with his arm to emphasise the point. (below).



Growing, on the other hand, is based on a priori meaning – Jim says *Gathering means to come in a group* – and gestures with his arm to emphasise his point. (below)



John starts to tap his pen loudly on the table. Rob slumps on the table and asks what the second lesson is. John proposes **spooky** and Ali tries to take this card off Jim. Jim refuses to let go – *Wait man! I've got to check it first!* (below left). Rob also tries to get the card off Jim. (below right) Rob asks Jim why he is refusing to go along with **spooky**. Jim says *It's mine – I'm doing number 4*. Ali says – *We're in a group – doesn't mean it's yours*. There is a long silence as Jim holds **spooky** up to his copy of the text and checks it. He then places **spooky** on the sheet.



The others start to get the materials ready for the next part of the task. Meanwhile Jim continues with his checks. He suddenly grabs the card marked **growing** and slides it towards Ali – *It's growing! Read it! Look!* And he points to his copy of the text. Ali carries out a check, reading his copy of the text. Jim gestures with his arm – *The shadows were growing – getting bigger and bigger!*

At this juncture, Jim calls the researcher over and asks him to resolve the dilemma.

The task is characterised by the vilification of John by Ali on the basis that he does not contribute enough – this despite Rob's almost total lack of contribution. Sam, a former member of the group, is also vilified for the same reason. Jim tries to defend John and rightly points out that Ali also contributes very little. Despite this, Jim is happy to do most of the work here in order to avoid doing the retell which is not his strong suit.

Focusing the task

[John throws play dough at Jim]

Jim – Stop it.

Ali – John man stop it! [Asks researcher for paper]

Jim [Ready to draw] Howay Ali.

Ali – Not happy [Consults the text (1)] *I was suspicious about being allowed to go on the trip... so his dad was on the sofa and he went up to him...*

Jim – Shall I do a speech bubble?

Ali – No! Like his hair was all over the place so just do.... Can you do this... Like when it goes all over like that? [Gestures with hand (2)]

Jim – Like spiky?

Ali – No, not spiky. Sticky up, like his hair was all over the place when he asks for money. He has to do that.

Ali's first attack on John

[Jim starts drawing and the others talk while they wait for him to finish. Ali sees that John has been making something with a small piece of play dough]

Ali – Show us then... or you'll go back to your group next week [laughs wickedly]

John – Not bothered.

Rob – Why not tomorrow?

Ali – We'll have Ned tomorrow.

John – You'll have Ned?

Ali – Aye, cos he learns. Not like you. You're just a waste of space.

Rob [Laughs]

Ali – He is cos he doesn't do any work man. He just sits there. Plays with play dough.

Jim – So do you.

Ali – I'm telling you what to do aren't I?

Jim – You're always smoking man.

Rob – He's smoking blue

Ali – Blue cheese!

Jim [Referring to his drawing] So is he suspicious as why not?

Ali [Looking at the drawing] The dad's got wiggly hair man! The dad's hair's all over the place not the boy's.

Rob [Laughs]

Jim – You should have explained it more.

Ali – I did. I said the dad's got wiggly hair... like he's got thingy hair and you were like...

Jim – I need a rubber

[Ali gets the rubber from John]

Ali [To John] You're a waste of space man. Can't even help us with that.

Jim [To Ali] You're a waste of space and all.

Ali – Well you don't need me then.

Jim – Aye

Ali – Don't tell me what to do next.

[Ali and Rob go over to Group C where Sam is working. Teacher A rounds them up and, noticing how far behind the group is, asks them to speed up]

1



2



An attempt to integrate John

Rob- *We need a drawing of a suspicious cat.*
 John- *I'll do a cat.*
 Jim- *How do you draw suspicious?*
 Rob- *I don't know- read the story!* [Picks up a copy of the text]
 John can do it.
 Ali- *Don't look at me.*
 Jim- *Why* [John reaches for the sheet so he can draw the picture - Jim keeps hold of it (3)]
 Ali- *You don't need me.*
 Rob- *John has to read it.*
 John- *Read?*
 Jim- *Aye*
 John [Starts reading from the beginning of the paragraph] *I couldn't sleep that night for worrying since the cat showed up.*
 Ali [Interrupting] *You don't read the whole paragraph!*
 John [Reading the target sentence (4)] *There is nothing suspicious about a cat with weight problems*
 Rob- *A cat with weight problems?*
 Jim- *Weight? Like fat cat?* [John shows him the sentence]
 Rob- *Aye*
 Ali- *The cat's getting bigger and bigger every day so you could draw..*
 Jim- *A big fat cat!*
 Ali- *No man! You're supposed to draw... a big fat cat.*
 Jim- *That's what I just said.*
 Rob [To Sam in Group C] *What you copying us for?*
 Ali- *What would you do without me?*
 Rob- *Everything*
 Jim- *I know.*
 Ali- *John would need my help cos I'm the icing on the cake.*

Rob does Ali's job

[Ali starts messing about, making a play dough figure he calls Mr. Pickles. He smokes the model (5) then uses it as a penis (6)]
 Jim [To Ali] *Howay. Read it! Read it!* [Gives text to Rob]
 Ali- *I thought you could do it without us.*
 Jim- *Oh well. We're not bothered.*
 Rob [Reading from the text] *From downstairs I could hear the sound of canned laughter. So you just draw people laughing.... So you draw the kitchen. Remember when you did the kitchen thing?*
 Jim- *They're watching TV!*
 Rob- *Yeah. They're downstairs and then the door and then the stairs going up.*
 Jim- *Nah*
 Rob- *Aye... You better!*
 [Ali continues fooling about]
 John- *I'll do 'growing everyday'.*
 Ali- *John man. You're a waste of space.*
 Jim- *Shut up.* [Inaudible] *upset*
 Rob [Referring to John] *Doesn't he look stoned?*
 Ali- *Aye*
 Jim- *No he doesn't*
 Rob- *Aye. He does.*
 Ali- *John looks stoned.*
 Jim- *You look stoned*
 Rob- *Smoking a bog dooby.*

Sam's return

[At this point Sam comes over from Group C]
 Sam [Looking into a pot] *Why is there a rubber in there?*
 Ali- *Are you coming back to this group? What's that group like? Do they do any work?*
 Sam- *This group's shit.*
 Ali- *We get more work done when you're not here.*
 [Sam leaves as Teacher A approaches]

3



4



5

6



RETELL

1



John

That's him when he's not happy when he's going on the trip. And when he gets a letter.

(John off camera says 'Explain it all!')

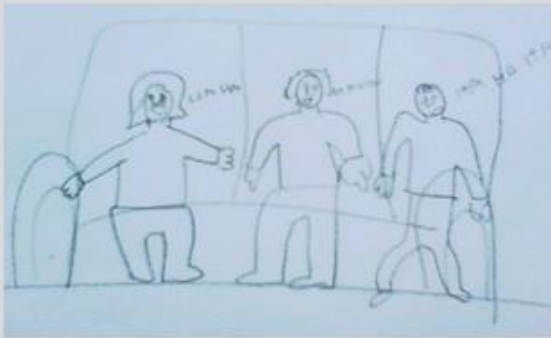
2



John

That one's a suspicious face.

3



Jim

That is one where they are laughing.

(Teacher off camera asks what they were laughing at)

They were laughing at the telly. They were laughing at a game show.

4





John

That's when the light was getting bigger and bigger

(Teacher off camera asks where the light was coming from)

Rob says 'The moon... street lights'. Jim says 'The sun was going down.'

Wk 4 Day 2 Grp A		Bookmarks: Read (0.00-3.09): Make (8.00-19.45):	Solve (3.11-8.00): Retell (20.00-21.06)			
R E A D I N G	<p>Notes</p> <p>Again Betty's reading is very fractured, consisting of pairs of words read together followed by a pause. Frequent errors break up the sense of what she reads. E.g.</p> <p><i>He just looked anxiously at his watched... at his watch... as he... as if he...</i></p> <p>Jill has to pause at several points to ensure her reading was accurate – e.g. to distinguish between <i>tired</i> and <i>tire</i> which look similar. The others ignore these simple problems but help Jill when she struggles with <i>cockerel</i>.</p> <p>Kim makes similar errors, mistaking <i>were</i> for <i>where</i> and <i>farmer</i> for <i>farmers</i>.</p> <p>Fay's reading has several reruns that she uses to ensure her reading is accurate. Again, she struggles with simple words, here omitting <i>the</i>.</p> <p>This suggests that the group as a whole prioritise words that they consider to be key and/or challenging (e.g. <i>cockerel</i>) and do not recognise details or small words as having much importance.</p> <p>When Betty is reading only Fay attends to the text. Jill arranges the materials and Kim plays with the sound recorder (A).</p> <p>By contrast, when Fay is reading, all the girls attend to the text. (B).</p> <p>This may be because the group have had time to settle down. Alternatively it might be because Fay's reading is easier to follow and so easier to listen to.</p>		<p>The Improbable Cat (6)</p> <p>Two weeks later, at six in the morning, the coach came to take us to the school camp at Thomas's farm. All the parents yawned sleepily as they waved us off, apart from my Dad. He just looked anxiously at his watch as if he was desperate to get away. Then we were off, each mile taking us further from our homes, our families, our computer games and our pets... I struggled with my conscience as we sang our happy songs and told jokes. I told myself that the family would be okay and that nothing bad would happen whilst I was on holiday.</p> <p>The farm was brilliant. There was a large stable of horses and lots of chickens. The cows had just calved and one of our jobs was to feed the baby cows. You do this by putting milk on your finger and letting them lick it off. The fields surrounding the farm were full of trees to climb, some of which had ropes that you could swing on. In the afternoons they tried to tire us out by making us go on long walks but in vain. Our torches were on most of the night and it was usually us that woke the cockerel up at dawn – not the other way round.</p> <p>The farm was just what I needed after the last few weeks. The work we had to do was hard, but it was a welcome distraction from my troubles. After three days I'd stopped thinking about the cat and all that had happened. It was if it had all been a dream. Until, that is, I had my idea. There were five of us that were told to stack some straw bales. It was hot work and the straw scratched our skin and made it itchy. As soon as the farmer's back was turned we started messing around.</p> <p>First we built some steps and jumped off the top. Then we built a fort. Exhausted, we then collapsed on the ground and lay in the sun. That's when I had the idea – the cat idea. I was lying on the spiky straw that felt like a bed of nails under my tee shirt 'Eureka!' I said out loud.</p> <p>'What are you talking about?' said Andy.</p> <p>'Oh nothing,' I said. I didn't want to talk about it until I had a clear plan in my head. A plan to get rid of that cat once and for all.</p>			
			1			
			2			
			3			
			4			
<p>Text reading</p> <table border="1"> <tbody> <tr> <td>1 Betty* (W11.09/F16.00/NF16.00)</td> </tr> <tr> <td>2 Jill (W11.00/F12.00/NF8.06)</td> </tr> <tr> <td>3 Kim (W12.06/F10.08/NF9.05)</td> </tr> <tr> <td>4 Fay (W10.06/F9.08/NF13.02)</td> </tr> </tbody> </table> <p>Red: Error Blue: corrected error</p>		1 Betty* (W11.09/F16.00/NF16.00)	2 Jill (W11.00/F12.00/NF8.06)	3 Kim (W12.06/F10.08/NF9.05)	4 Fay (W10.06/F9.08/NF13.02)	
1 Betty* (W11.09/F16.00/NF16.00)						
2 Jill (W11.00/F12.00/NF8.06)						
3 Kim (W12.06/F10.08/NF9.05)						
4 Fay (W10.06/F9.08/NF13.02)						
<p>A</p> 						
<p>B</p> 						

Target word: *Conscience* **Selected:** *tent*

Betty says *It could be I struggled with my seatbelt*. But the others are distracted by something happening off camera and pay no attention. When they begin the task they start with **Eureka** (see below).

When the group return to this word Betty reads the target sentence again inserting **seatbelt** – *as we sang our happy songs and told jokes*. Kim then complains that they should be working on **distraction** and reads her target sentence – *It was a welcome distraction from my troubles*. As she reads she stabs the text forcefully with her finger (below, left). Betty tells her that they will solve **conscience** first. Jill agrees – *it could be seatbelt*. Betty then suggests **tent** and checks it – *I struggled with my tent*. Jill then challenges *Were they in the car though?* and searches the text, running her finger over it. Betty says *They were on holiday*. Kim points to the text. *Yes a camp!* and points to the word in the text (below right)



Jill places **tent** alongside **seatbelt** on the answer sheet – *It must be camp then. If we keep them both there... but we can't!* There is a long pause. Fay then negates **tent** – *It says they're already off the coach getting their computer games*. Betty corrects Fay by reading out – *far from our homes and our computer games and our pets*. Betty says *I think it's tent*, Jill and Kim agree and then Fay nods.

Target word: *Eureka* **Selected:** *I've got it*

Without saying anything, Fay picks up **Ouch** and places it on the answer sheet. Kim challenges her – *How do you know that one's yours?* Jill also challenges *How do you know?* Betty rejects '**Ouch**' and proposes **I've got it**. Kim immediately replaces **Ouch** with **I've got it**, despite the fact that Betty has not, as yet, justified her choice. Betty explains that **Eureka** means **I've got it!** Jill then mentions an television show where **Eureka** was used to signify that a character had had an idea. Betty says *You watch too much television!* and they all laugh, apart from Fay who says nothing. Kim tells the group to solve **distraction** next, meaning the group are working from the last paragraph to the first in reverse order.

Target word: *Distraction* **Selected:** *escape*

Betty tries to define **distraction**. Jill helps her *You get distracted*. Fay (whose word **Eureka** has been solved) asks if she can get the play dough. Kim tells her no. Kim suggests *Would it be unsuccessfully?* Betty reads the target sentence *It was a welcome...* and then stops. Betty then reads her own target sentence (see **conscience**, above) and the group shift attention to solving that word.

When the group return to **distraction**, Jill asks *Could it not be distance?* This makes no grammatical sense but shares the same initial letters as the target word. Kim, confused as to the focus of the discussion, thinks that **distance** has been proposed as the definition for **in vain**. Betty negates **distance** and proposes **escape** and confirms this by referring to the text – *a welcome escape from my troubles*. Kim accepts this without question and places the card on the answer sheet.

Target word: *In vain* **Selected:** *unsuccessfully*

Betty suggests **unsuccessfully** and justifies it – *They tried to tire them out*. Jill negates this because **in unsuccessfully** makes no sense. Betty tries to explain that the **phrase in vain** is a match for **unsuccessfully** – that two words can be summed up by one word. There is a long pause and Betty repeats her proposal of **unsuccessfully**. Fay asks *What is Kim's?* The group move to try and solve **distraction**.

When the group return to **in vain**, Betty repeats her proposal of **unsuccessfully**. Kim makes a counter proposal of **distance** that she justifies by reading from the text – *Go on long walks but distance*. This is negated by Betty who repeats the proposal of **unsuccessfully** and places the card on the answer sheet.

Focusing the task- the central role of Betty

The initiation of the task again shows the growing reliance of the group on Betty. Kim and Jill compete for her attention, whilst Fay works on her own (1)

Jill - *It can't be unsuccessfully.... What could I draw for that? There's nothing I can draw for that!*
 Kim [Stands up]- *What can I draw for escape? There's nothing I can draw for that either!*
 Betty- *Draw like trees ... and then draw a sign saying 'Woods' and then... like*
 Jill- *Oh right! I know what you mean*
 Betty- *And then they..*
 Jill- *Try and make them go on a long walk.*
 Kim- *What can I do?*
 Jill- *You could have this thing [hands as if holding something (2)] and they try to escape.*
 Betty- *You could do a sign saying 'Thomas's Farm*
 Kim- *What for me?*
 Betty- *Uh huh!*
 Kim- *Then I do Thomas's farm in play dough.*
 Jill [Turns to Betty] *What was I trying to draw again?*
 Betty- *Printing on the sign saying 'woods'.*
 Jill [Turns to her copy of the text (3)] *and then from memory tell the story about how they were .. Erm...*
 [Reads from the text 'Our torches were on for most of the night']

Fay [Holds up her work to Betty (4)]- *What do you think about that? He's thought of an idea.*
 [Betty looks and nods]
 [Jill sits back and watches the others working whilst she thinks about what she can do next]- *I could draw.... Oh no. [Leans forward and checks her copy of the text again]*
 Betty- *You could have like his tent fell down and he's unsuccessful in setting his tent up and everyone else's is up. [Jill starts to listen but then turns to Kim, who needs some play dough]*

[Jill turns to Betty and sends her to get the dough. This starts a new episode about the distribution of physical resources in which it is Jill, not Betty, that is in charge]

1



2



3



4



Logistics [Time and materials]- the central role of Jill

[Betty leaves to get the dough]
Kim [Shouting after Becky] *Get a rubber as well. I spelled Thomas' wrong.*

[Betty returns with the dough]

Kim [Claps her hands] *Yay!*

Jill - *I need green and brown.*

Kim - *I need any colour.*

Fay - *I need yellow.*

Kim [pointing to the table (5)] *Put the play dough there.*

Jill - *Put the play dough back in the box and put it there.*

[Betty puts the dough in the box - Jill takes it off her and starts to distribute the dough]

Fay - *I need yellow red and blue.*

Kim - *What colour can I do the sign?*

Jill - *Do the sign orange.*

Betty [To Fay] - *Share it with me.*

Jill [To Betty] *Has everyone got new [play dough]?*

Betty - *Uh huh.*

Jill [Looks at the clock] - *We've got ten minutes.*

(The girls then work independently, occasionally checking with each other as to the colour choices they are making. This continues right up to the conclusion of the task, when Jill again takes charge of logistics)

Kim - *Shall I just do white on top?*

Jill - *Just leave it like that.*

Kim - *I'll just do white... No, I'll leave it like that...*

Betty - *Fay, have you finished with yellow?*

Jill - *I'm done* [Sits back]

Kim [To Jill] *You know when we take all this apart, do we roll it [the dough] back up in the thing again?*

Jill - *Oh no!*

Kim [To Jill] *Story?*

Betty - *Not yet.*

Jill - *Oh! You don't have to do that.*

[Jill starts tidying things away (6)]

Kim - *Right. I'll get the camera.*

Jill - *No. Betty isn't ready and she's before me.*

[Both Fay and Betty are still working]

Jill - *Betty, do you really have to do that?*

Betty - *I'm just doing this last bit*

[Jill finishes tidying]

Kim - *Right Betty! Done!*

[Betty stops working]

5



6



RETELL

1



Betty

They're getting further and further way from their families and their pets and he's struggling to put his tent up and everyone else has got their tent up and he hopes nothing bad will happen to the family.

2



Jill

In the afternoons they tried to tire them out by making them go on a walk but it unsuccessfully didn't work and they had their torches on for most of the night.

3



Kim

It was a few weeks when they were on the farm and then he was distracted by his troubles at home.

4



Fay

They were on the farm and they built some steps to jump off. When they'd built the fort they were very exhausted and they lay on the ground in the sun. That's when he had the idea to get rid of the cat once and for all.

Wk 4 Day 2 Grp B

Bookmarks: Read (0.00-3.59):

Solve (4.04-7.19):

Make (8.15-17.30):

Retell ((New) 0.00-2.10)

READING

Notes

Lily is now sitting on the periphery of the group and spends most of the session out of shot. She tries to assert some authority by allocating paragraphs to be read. However May is sitting in the central seat and controls the cards whilst Sue manages the camera. They ignore her. Whereas Lily started the earlier sessions in week 1 very cheerfully, now she is very subdued.

May's reading is noticeably more confident and fluent. She reads *anxious* for *anxiously* and quickly solves *conscience*.

Sue's reading is again very slow but this is because she is checking each word before carrying on. For example she reads *in vain* correctly but pauses, probably because the expression is unfamiliar to her. She makes several 'visual' errors such as *off it* for *it off* and *went* for *were*. No one points this out. However, when she struggles with *cockerel* May helps her. Sue laughs.

Eve again makes some simple errors that she does not self correct- *days* for *weeks* and *strack* for *stack*. Despite the simplicity of the errors no one else intervenes.

Lily's reading, in contrast to the loud and expressive reading of the previous week, is barely audible. Whilst she is reading, Sue's gaze alternates between Lily and the camera (A). When Lily stumbles on *collapsed* and *Eureka* she is quickly corrected by May, giving her no time to work out the words for herself (B). Unlike Sue, Lily does not laugh. Despite the lack of expression, Lily's reading is more accurate, lacking the simple errors of previous sessions.

Here very close attention is paid to the text because this is where power and control are exercised.

The Improbable Cat (6)

Two weeks later, at six in the morning, the coach came to take us to the school camp at Thomas's farm. All the parents yawned sleepily as they waved us off, apart from my Dad. He just looked **anxiously** at his watch as if he was desperate to get away. Then we were off, each mile taking us further from our homes, our families, our computer games and our pets... I struggled with my **conscience** as we sang our happy songs and told jokes. I told myself that the family would be okay and that nothing bad would happen whilst I was on holiday.

The farm was brilliant. There was a large stable of horses and lots of chickens. The cows had just **calved** and one of our jobs was to feed the baby cows. You do this by putting milk on your finger and letting them lick **it off**. The fields surrounding the farm were full of trees to climb, some of which had ropes that you could swing on. In the afternoons they tried to tire us out by making us go on long walks but **in vain**. Our torches **were** on most of the night and it was usually us that woke the **cockerel** up at dawn- not the other way round.

The farm was just what I needed after the last few weeks. The work we had to do was hard, but it was a welcome **distraction** from my troubles. After three **days** I'd stopped thinking about the cat and all that **had** happened. It was if it had all been a dream. Until, that is, I had my idea. There were five of us that were told to **stack** some straw bales. It was hot work and the straw **scratched** our skin and made it itchy. As soon as the farmer's back was turned we started messing around.

First we built some steps and jumped off the top. Then we built a fort. Exhausted, we then **collapsed** on the ground and lay in the sun. That's when I had the idea- the cat idea. I was lying on the spiky straw that felt like a bed of nails under my tee shirt. **'Eureka!'** I said out loud. 'What are you talking about?' said Andy. 'Oh nothing' I said. I didn't want to talk about it until I had a clear plan in my head. A plan to get rid of that cat once and for all.

Text reading

1 May* (W11.09/F8.06/NF13.09)

2 Sue (W9.06/F7.07/NF7.07)

3 Eve (W10.00/F8.06/NFna)

4 Lily (W9.06/F12.00/NF13.02)

Red: Error Blue: corrected error

A



B



Target word: *Conscience* **Selected:** *seatbelt*

May's selection of **experience** fits syntactically and is consistent with sense (**the character is struggling with his recent experiences with the cat**). Sue's counter challenge **seatbelt** is a better fit for local sense and syntax (**being on the bus**) and is more consistent with a priori definitions of **struggling** as referring to concrete (**seatbelt**) rather than abstract nouns (**feelings/experiences**). May reads the whole sentence, substituting **seatbelt**. May then gets the card marked **experience**, places it on her copy of the text and reads the sentence again. She tosses aside **experience** and places **seatbelt** on the sheet. Sue leans over and asks Lily if she agrees, much as Lily had done to Eve the previous week (below). May removes the card and shows it to Lily and Eve, much as Lily had done. There is silence and Eve nods.



Target word: *In vain* **Selected:** *unsuccessfully*

The group each silently scan their own copies of the text. Eve using her finger. Sue mutters... *On long walks but in vain.... What does in vain mean?* May proposes **a long way** which fits local sense (the characters were walking) but not grammar. May discards this selection after checking it. After this there is a long pause and, as a last resort, an appeal is made to the Eve and Lily. May says *What do you think it is?* This appeal is interrupted by Sue's proposal of **unsuccessfully** which appears to be inspired by the extended reading used to check **a long way**. Sue passes the card to May and asks her to check it. She does, asks Lily and Eve *Do you think it's unsuccessfully?*, then passes it to Sue who places it on the sheet.

Target word: *Distraction* **Selected:** *escape*

Eve reads the target sentence. Meanwhile Sue and May scan the cards. When Eve stops, May picks up **escape** and reads **It was a welcome escape from my troubles**. She looks to Sue who agrees. May shows the card to Lily and Eve before placing it on the sheet (below).



Target word: *Eureka* **Selected:** *I've got it*

Lily reads from spiky straw. This is the first time she has spoken in this part of the task. May scans the cards, picks up **I've got it**, holds it against her copy of the text and checks it by reading the sentence again. She confers with Sue and then places the card on the answer sheet in front of Lily without making eye contact with her.

Allocating the materials

The group say little or nothing at this stage. May and Sue organise the dough, sorting it into colours. As they do this Lily reaches across and grabs some (1). May and Sue say nothing. Sue and May decide on the colours they need and then pass the rest to Lily and Eve (2).

Focusing the task

This phase is marked by several episodes where May and Sue try to build bridges with Lily through Eve.

Eve - *What can I do for escape?*

May - *Do you know that man near fire exits?*

Eve - *Oh yeah.*

[May looks across at Lily a couple of times before speaking again]

May - *Lily, what's yours?*

Lily - *Stars*

May - *Yes, that's one of the easiest ones.* [Smiles]

[Lily makes no eye contact and doesn't smile.]

Eve - *Ern* [Looks to Lily] *I need to do mine.*

May - *You can do this one* [pushes her sheet towards Eve] *and I'll do yours for you.*

Eve - *No. I'll do this one*

May [To Eve] *For your picture.*

Lily [Interrupting May, says to Eve] - *Make the man and then you can draw things round it*

Sue [Passes Eve some card (3)] - *Draw the man.*

Eve - *I'll do it on here first.*

May - *I'll do some trees and all that, cos they're surrounding*

Eve - *Oh! The man* [on escape signs] *is green isn't it!*

May - *When we....the people are going to be bigger than the trees* [Laughs and tries to make eye contact with Lily]

Lily [Not smiling] - *They could be miniature trees*

May - *Baby trees* [Smiles at Lily - again there is no response from Lily. May then gets up to get a pen. After she leaves, Lily turns to Eve]

Lily - *Have you still got that paper?*

Eve - *Uh huh. I need it*

Lily - *I need to make a fort*

Eve - *A Ford?*

Lily - *Fort!*

[May returns]

Lily [To Eve] *Do you need brown?*

Eve - *No.*

Checking against the text

Eve looks at her model in despair. She looks at Lily. She and Lily laugh. Sue sharply turns her head towards them but does not laugh or say anything.

Sue [To May] *What can I do now?*

May - *We need something about feeding the baby cows.*

Sue - *Which paragraph is that?*

[May picks up a copy of the text and Sue finds the relevant section in the text, pointing with her finger (4)]

1



2



3



4



More attempted bridge building

As the task nears completion there are further attempts by May and Sue to engage with Lily via Eve

Sue [To Eve] *What's that?*

Eve- *You know that man... on the sign... like an arrow to escape* [uses her finger to point] *If there's a fire or something... then there's an exit.*

Sue- *Makes no comment*

May- *Look! A baby cow! It's cute!* [Holds it up and looks towards Lily (5)]

[No reaction from Lily]

Sue- *Let's have a look!* [Smiles]

May [Turns back to Lily]- *I think that woman is scary. You know the one that hypnotises?*

[Lily does not look up or acknowledge]

May. May pauses and then turns back to Sue]

May [To Sue]- *You know that woman on Britain's Got Talent where she hypnotises... do you watch that?*

Sue- *The one that* [inaudible] [Sue looks across at Lily]

May- *Uh huh.*

Sue [To Lily]- *Do you want this play dough?*

[Holds out play dough to Lily. Lily sees this but doesn't acknowledge. After waiting a few seconds Sue reaches across and places dough between Lily and Eve (6)]

May- *I need some green.*

[Lily does not make eye contact but passes some green to May]

Eve- *Are you allowed to write on the paper?*

May- *Yeah*

[Eve starts annotating her drawing.]

Checking against the text

Eve- *Who can I draw?*

May- *You can draw Andy.*

Sue- *Is Andy there?*

May- *Yeah* [Points to text (7)] *'What are you talking about'* [said Andy]

[Eve starts drawing]

Lily- *I've already drawn Andy.*

May [To Eve]- *The farmer.*

[Eve turns over her piece of paper and starts again]

Lily- *Is everyone ready?*

May- *Not yet.*

[Lily gets up to move the camera in preparation of the retell]

5



6



7



RETELL

1



(May does the retell)

The boy goes on his trip and when they're singing happy songs his seatbelt... struggles... he struggles with his seatbelt when he's on the coach to go to the farm on his holiday.

2



This is how to feed baby cows. You put some milk on your fingers and then you give it to the cows. They lick it off your finger. The farmer tries to get us to go on long walks to tire us out but that is unsuccessful. We wake up the cockerel instead of the other way round!

3



The farm is just what I needed for a few weeks. It has taken my mind off the cat but it is still fun here. If the cat wasn't here I'd miss my family but...just time to get away from them. That's what I think anyway.

4



I've got an idea to get rid of the cat but it's a secret until I've figured out a plan!

Wk 4 Day 2 Grp C

Bookmarks: Read and Solve (0.00-12.06):

Make (12.08-23.00): Retell (25.22-26.30)

READING

Notes

Ned and Pete set up the task materials before Sam and Ned arrive, accompanied by a teacher. The teacher adjusts the camera, making the point that all the boys should be in shot because 'We need to know what you're up to! Sam complains that he doesn't want to be seen and he and Roy hide under the table (A). Sam, who has made sure he is out of shot, then starts reading as a way of disrupting the attempts by the teacher to organise them. Sam reads accurately and fluently up to *conscience* which the group spend some time trying to solve.

After the group solve conscience, the teacher returns and tries to get Sam to sit in shot – at first he refuses, then complies. The teacher stays whilst Roy reads. Roy starts to read, holding up the text so that his face is hidden from the camera. Most of his errors are visual (*marking for making; I'm for in*). He also mixes up lines in the text, reading *letting then* rather than *trees* to. He also misses punctuation (*) all of which make the reading fractured and hard to follow. When he finishes he again hides under the table. (B)

Pete reads up to the target word in paragraph 3 distraction and stops whilst the group try to solve this word. When they have finished, Pete does not continue reading and so most of the paragraph goes unread.

Ned reads paragraph 4. The others ignore him and busy themselves with the play dough. Ned's reading of words is accurate but his care in this respect means he has little sense of the grammatical sense of what he reads. At several points (*) he either inserts full stops or omits them, thus braking up the flow of what he reads.

The Improbable Cat (6)

Two weeks later, at six in the morning, the coach came to take us to the school camp at Thomas's farm. All the parents yawned sleepily as they waved us off, apart from my Dad. He just looked anxiously at his watch as if he was desperate to get away. Then we were off, each mile taking us further from our homes, our families, our computer games and our pets... I struggled with my **conscience** as we sang our happy songs and told jokes. I told myself that the family would be okay and that nothing bad would happen whilst I was on holiday.

The farm was brilliant. There was a large stable of horses and lots of chickens. The **cows** had just **calved** and one of our jobs was to feed the baby cows. You do this by putting milk on your finger and **letting** them lick it off. The **fields** surrounding the farm were full of **trees to climb**, some of which had ropes that **you** could swing on *. In the afternoons they tried to **tire** us out by **making** us go on long walks but **in vain**. Our torches were on most of **the night and it was usually us that woke the cockerel up at dawn- not the other way round**.

The farm was just what I needed after the last few weeks. The work we had to do was hard, but it was a welcome **distraction** from my troubles. **After three days I'd stopped thinking about the cat and all that had happened. It was if it had all been a dream. Until, that is, I had my idea. There were five of us that were told to stack some straw bales. It was hot work and the straw scratched our skin and made it itchy. As soon as the farmer's back was turned we started messing around.**

First we built some steps and jumped off the top. Then we built a fort (*) Exhausted, we then collapsed on the ground and lay in the sun. That's when I had the idea- the cat idea. I was lying on the spiky straw that felt like a bed (*) of nails (*) under my tee shirt. **'Eureka!'** I said out loud.

'What are you talking about?' said Andy.

'Oh nothing' I said. I didn't want to talk about it until I had a clear plan in my head. A plan to get rid of that cat once and for all.

Text reading

1 Sam (W11.00/F10.08/NF13.02)

2 Roy (W7.05/F13.05/NF15.11)

3 Pete* (W11.03/F10.05/NF7.02)

4 Ned* (W11.03/F8.06/NF13.09)

Red: Error Blue: corrected error

A



B



1

2

4

3

Target word: *Conscience* **Selected word:** *Guilt*

Pete proposes **Too late** and this is rejected and ridiculed by Sam. The others laugh. Sam suggests **Oh no** as a nonsense candidate and Pete laughs. Ned suggests **guilt** but doesn't check it himself and doesn't force his case. Sam, instead, proposes **journey**, appearing to ignore Ned's suggestion. The grammatically plausible **seatbelt** and **tent** are proposed by Pete and Sam respectively. Roy agrees with **seatbelt** and motions how the character might have struggled with it (below). These proposals are checked by Sam's very focussed reading of the phrase **I struggled with my ...**, rather than the whole story. Both are rejected for unspecified reasons. Pete starts to pick up random cards and propose them, much to the annoyance of Sam. 'No man! You've got to work it.. You're just guessing!' Unperturbed Pete suggests **a long way**, which is dismissed by Roy. *A long way? You tit!* Sam then reintroduces Ned's suggestion of **guilt**, acting as if this has just occurred to him. Ned says 'That's what I said' in a quiet voice but he is ignored. Sam gives an a priori definition as justification- *It means I wish I'd never done that- I wish I'd done this*. Ned tries to add to this but is shouted down by Sam. Roy tells Pete *Well put it on then you dick!* Pete throws the card across the table.



Target word: *in vain* **Selected word:** *unsuccessfully*

Only Sam conducts audible searches and checks, using the sentence fragment **go on a long walk but...** Roy and Pete either make no checks or guess. Also they do not defend their proposals when rejected by Sam but move onto another candidates. After struggling for some time Sam exclaims '**It could be any of them**'. The limited nature of the checks up to this point means this is almost true, but even with this limited information several of the options considered by the group are obviously inadequate but keep recurring (e.g. **let's go and I've got it!** from Pete). Sam then says '*I know what it is! Because if you read it properly...*' and holds finger up to quieten the others. Sam then engages in a wider search that involves reading the entire sentence and the significance of **in vain** becomes clear to him- **the teachers keep the children busy to tire them out**. This leads to a quasi-proposal (**It didn't work**) by Sam. Pete suggests **distance** as a substitute for '**didn't work**', suggesting he is not following Sam's logic. Sam jumps up when he sees **unsuccessfully** and places it on the answer sheet. He then claps his hands and says '*I'm clever me!*' (below) Ned says very little throughout this episode.



Target word: *distraction* **Selected word:** *escape*

Sam allocates Pete the job of solving this word. Pete says *Distraction means to put off something*. Sam and Roy leave the table to get the researcher. Sam wants to show the researcher their work and returns, explaining to him how they worked out the answers. Afterwards, Pete selects **distance**, possibly because it looks like **dis-traction**. Pete then proposes the correct solution (**escape**) and looks to Sam to approve the selection but Sam pays no attention - he is busy playing with the play dough. Pete, seeing the play dough, places his card hurriedly on the answer sheet and grabs a handful. Ned checks 'distance' several times but Pete ignores him. Later Sam notices that **distance** has been wrongly selected. He says '*distraction means...*' and then reads the whole target sentence, identifying **escape** as the correct candidate. Pete questions this, but replaces **distance** with **escape** when Sam again reads the target sentence to justify this.

Target word: *Eureka* **Selected word:** *ouch*

By now everyone is distracted by the play dough. Ned makes the random selection of **ouch** and joins them. No one seems to notice.

A disclosure raising a child protection issue was made as the group transitioned from solving the target words to making the pictures for their retell. A transcription of the exchange, along with a copy of the video were provided to the staff member responsible for pupil safeguarding in school. This allowed a decision to be made as to the significance of the disclosure and the consequences for the safety of the students involved. The following exchanges immediately followed this incident.

Sam - *Guilt. I'll do guilt.*
 Ned - *We're supposed to do the ones that we read out.*
 Sam - *Aye. I did the first one.*
 Roy - *Sam. Come and move this snout. [Picks up Sam's 'cigarette' and throws it at him]*
 Sam - *[Inaudible]*
 Roy - *You need that man [Snatches red dough off Ned (1) and throws it to Sam] To put on the end Pete [Pointing to his model] There! That's the person escaping.*
 Sam - *Aye. It's shit.*
 Roy - *[Shows his cigarette to Ali in Group D (2)]*
 Ali... Ali... Ali...
 Sam - *Better than yours Ali!*
 Ned - *He wasn't even looking.*
 Pete - *Yous man. Stop playing around with the play dough.*
 Sam - *What would I do with guilt? Would I do like an unhappy face?*
 Pete - *Just do whatever you want.*
 Roy - *[Looking at his sheet] Unsuccessfully....*
 No. *[Looking at Sam]. You're not touching my tab! [Picks up his cigarette]*
 Pete - *Stop doing tabs!*
 Roy - *I'm not doing tabs. I'm doing willies for you! [Throws across some play dough crudely fashioned into a penis (3)]*
 Pete - *Urrgh!*
 Sam - *Pete man. We know you like them. Big black ones. You do. You told us.*
 Roy - *Oh dear Pete.*
 [Pete has used the play dough penis Roy threw at him to prop up the stick figure he has made (4)]
 Pete - *Yous. That might look wrong to yous but it's not.*
 Sam - *[Inaudible]*
 Roy - *No. Look at it. Look at the play dough he's done.*
 Sam - *It looks like a knob.*
 Pete - *It's just to stand it up.*

1



2



3



4



RETELL

1



Sam

I've done a man with a sad face. He's guilty cos he's left his family... Like he didn't want to. He's guilt cos he left his family and he's scared in case something happens when he's away.

2



Roy

It's someone whose unsuccessful. They tried to tire them out but he's not tired out yet and he's walking on the path near an apple tree.

3



Pete

Right. He's thinking about escaping.

Sam

Why's he thinking about.... No, he's not thinking about escaping. He's on a walk cos he's escaping everything. He's not... like it's making him forget everything.

4



Roy

It's a kid who gets it. Like he says, 'I've got it!' He knows how he's going to get away.

Wk 4 Day 2 Grp D

Book marks: Read and Solve (0.00-11.35):

Make (11.36-23.00): Retell (23.30-26.12)

READING

Notes

Ali again sets the camera up. Rob and Ali have swapped positions. Another significant change is that John, not Ali, reads first.

John reads slowly with his finger, solving the text word by word. He self corrects all his errors apart from two—the omission of *that* and *con-science* which he reads as *con-sense* after several attempts and with Ali's help. The others do not help probably because they also do not know this word. Ali and Rob follow the text but Jim concentrates on the task materials.

Jim holds the page up to his face when reading. Ali notices that Jim is still not reading the full stops. He stops Jim and tells him to take a breath after *chickens* and again after *cows*. Jim then does this for himself after *off* and *on* and his fluency improves. He looks over to Ali when he reads *in vain*, unsure what this means. Ali doesn't notice. John helps Jim to read *cockereel*.

Ali reads very carefully, using a pencil to guide his reading of each word. He misreads *work* as *walk*. Halfway through the paragraph Jim attempts to distract the others by using a pencil as a cigarette and then balancing it on his upper lip (A). The others ignore him. Ali struggles with *started*, reading it as *strated*. He is corrected by Rob.

Rob's errors (e.g. the substitution of *onto* for *on*) suggest that he is attending to meaning more than the words on the page. Uniquely he does not point to or touch the page when he is reading. Although the prose is read with little expression, the direct speech is read in a natural voice and expression and fluency improve markedly here. Unlike the others he recognises that direct speech originates with characters rather than the story teller and adjusts his reading accordingly.

The Improbable Cat (6)

Two weeks later, at six in the morning, the coach came to take us to the school camp at Thomas's farm. All the parents yawned **sleepily** as they waved us off, apart from my Dad. He just looked **anxiously** at his **watch** as if he was desperate to get away. Then we were off, each mile taking us further from our homes, our families, our computer games **and** our pets... I struggled with my **conscience** as we sang our happy songs and told jokes. I told myself **that** the family would be okay and that nothing bad would happen whilst I was on holiday.

The farm was brilliant. There was a large stable of horses and lots of chickens * The cows had just **calved** and one of our jobs was to feed the baby cows * You do this by putting milk on your finger and letting them lick it off * The fields surrounding the farm were full of trees to climb, some of which had ropes that you could swing on * In the afternoons they tried to **tire** us out by making us go on long **walks** but **in vain**. Our torches were on most of the night and it was usually us that woke the **cockereel** up at dawn— not the other way round.

The farm was just what I needed after the last few weeks. The **work** we had to do was hard, but it was a welcome **distraction** from my troubles. After three days I'd stopped thinking about the cat and all that had happened. It was if it had all been a dream. Until, that is, I had my idea. There were five of us that were told to stack some straw bales. It was hot work and the straw scratched our skin and made it itchy. As soon as the farmer's back was turned we **started** messing around.

First we built some steps and jumped off the top. Then we built a fort. Exhausted, we then collapsed **on** the ground and lay in the sun. That's when I had the idea— the cat idea. I was lying on the spiky straw **that** felt like a bed of nails under my tee shirt.

'Eureka!' I said out loud.

'What are you talking about?' said Andy.

'Oh nothing' I said. I didn't want to talk about it until I had a clear plan in my head. A plan to get rid of that cat once and for all.

Text reading

1 John* (W10.00/ F7.07/ NF7.02)

2 Jim (W8.00/ F7.07/ NF9.05)

3 Ali (W11.00/ F12.00/ NF13.02)

4 Rob * (W10.09/ F/12.10/ NF16.00)

Red: Error Blue: corrected error

A



Target word: *Conscience* **Selected:** *sadness*

Jim wants to read the next paragraph but Rob points to the cards – We're doing this!

Jim's proposal **tent** derives from an analysis of local meaning (**camping trip**) and a priori meaning of **struggle** (to physically carry something). Rob negates **tent**, wrongly suggesting that the character is in a car – Jim thrusts his copy of the text at Rob – Where does it say they are in a car? He then mimes carrying something heavy over his shoulder, (below). He then proposes **seatbelt**.



Tent and **seatbelt** compete with Rob's candidates (*sadness; guilt; experience*) that derive from the sense of the story. Rob quotes the text- **I told myself nothing bad would happen**). The standoff is broken by John who goes to get some pencils. When he returns he and Ali discuss who will illustrate which paragraph in the story. Jim, looking unhappy, then starts to read the next paragraph. The dilemma is forgotten and no selection is made at this point. The students' retell of the story shows that *sadness* was the final selection made, although this was never discussed or agreed.

Target word: *In vain* **Selected:** *unsuccessfully*

The episode starts with Ali reading the target sentence- **In the afternoons they tried to tire us out by making us go on long walks but.....** A succession of candidates follow, all ending in '!' (**Oh no!; I've got it!**) which suggests a visual method of selecting candidates. The text is then distorted by Jim to fit one of these selections- *Oh no! Our torches were on for most of the night.*

John's proposal of the correct candidate '**unsuccessfully**' is rejected because it is judged by Jim not to make sense. Ali asks What does **vain** means? No attempt is made by John to defend and justify his proposal until after '**unsuccessfully**' is overheard as the selection of Sam who is now working in group C- *They tried to tire them out by going on long walks...Put unsuccessfully.* The group look across at Group C's table (below).



Rob then repeats this proposal- *Aye they are unsuccessful because they stay up.* The fact that Rob doesn't merely repeat Sam's wording suggests that this data was available to be used as justification when **unsuccessfully** was first proposed by John, but the candidate was not considered strong enough until the eavesdropping took place. Without the facility of eavesdropping, effort would have focused on candidates that did not make sense (**Oh no!**) or fitted sense but did not fit grammatically (**distance**). Ali places unsuccessfully on the sheet as Sam can be heard to say *I'm clever me!*

Target word: *Distraction* **Selected:** *escape*

Ali leads with a rereading of the target sentence. John offers a definition for distraction—*Like you're putting them off or something*. Ali's initial proposal **guilt** fits the sense (**my troubles**) but does not fit syntactically and is negated by Rob—Ali puts the card back on the table. (It is perhaps surprising that this did not lead to a reconsideration of the first problem (**conscience**= **sadness**). The group then struggle to separate John's proposal **experience** (which would have fitted had the target sentence read '**... a welcome experience after my troubles**') from the more plausible **escape** which is proposed by Rob. Ali negates **experience** using a *a priori* definition—*Distraction doesn't mean experience*. The justification that secures selection of **escape** involves reference both to themes and the story *and* *a priori* definitions. Rob points out—*Escape means get away from it and he's got away from the cat. The cat is his troubles*. John concedes that **experience** does not fit and agrees with **escape**. Ali places this card on the sheet.

Target word: *Eureka* **Selected:** *I've got it*

Ali correctly proposes (**I've got it**) and acts it out in a comic voice—*Eureka! I've got it!* The others agree so Ali puts the card on the sheet and the group prepares to move on to the next task. Jim, however, continues to scan the cards and look at his text. Jim collocates *Oh no!* with his text says *I think it's Oh no!* (below). Ali ignores him and Rob negates this choice—*It's not Oh No!* Ali tells him *Eureka means I've got it*. Rob adds *Eureka means yippee*. Jim sets his text aside and collects the remaining cards together.



The group take a different approach to the task, dividing responsibility for portraying scenes equally amongst them rather than expecting Jim to do all the work. This reveals several issues including a difference between Jim's notion of 'texts' and that of the others. For Jim monitors the drawings of the others, pointing out discrepancies with his pencil in the same way as the other point out his shortcomings with comprehension by pointing to the text. The change also serves to reveal Rob's ability, as the strongest reader, to lead and direct the group. Rob and John are noticeably more comfortable with the new system than Ali and Jim who take quite some time to decide what to draw.

Organising and distributing roles

Ali - *That one's mine* [takes a sheet] *and that one's yours* [passes sheet to Jim] *Try and concentrate.*

[Rob, Ali and John all make sure that they can see a copy of the text whilst drawing (1)]

Ali - *So when we come to record it, I'll do mine, you do your bit and you do your bit* [Points to each member of the group]

John - *So I have to draw him on the coach trying to get away?*

Ali - *Try to figure it out. You're doing yours, I'm doing mine.*

Jim [To Ali] *We'll have to do each one by one. You do it first* [Pointing to Ali's copy of the text] *and then I...* [points to the sheet he will draw on].

Ali - *No man! We're doing it all together. It wastes time like that. Otherwise we won't get it finished.*

Jim's lack of independence

John - *Right. I'll draw him inside the coach.*

Jim [Appealing to Ali] *Unsuccessfully?* [Frowns. Taps pencil]

Ali [Being careful not to make eye contact with Jim]

Mine's escape. What would mine be?

[Jim thinks whilst all the others are working. He 'smokes' his pencil]

Jim [To Rob] *I don't know what to do.*

Ali - *Jim, stop acting hard.*

[Jim throws cards at Ali. Jim waits for a response from Ali but there isn't one. Jim looks at his copy of the text and then looks at what John is drawing]

Ali - *Well do it then Jim. Draw!*

Jim - *I don't know what to do!*

Ali - *Well read it!*

[Jim reads silently to himself (2) and then reaches across for the cards that he threw at Ali (3)]

Ali - *No man! It's unsuccessfully.*

Jim - *It's mine! I'm checking. I'm doing it aren't I? You're doing yours. You're not doing anything at all so there you go!*

Ali - *Cos I'm reading it! I'm not like you!*

Jim - *So am I! I'm reading it! That's why I've got the words.*

Ali - *It's unsuccessfully. Cos you don't know what it means. That's why you're changing it.*

John [Pointing to his drawing] *He's at the back of the coach.*

Rob - *Does it say he's on a coach?*

John [Points to the text and reads (4)] *Three weeks later a coach came...*

Rob - *Aye*

Jim - *John man! Read it where it says the word* [Points to the target word in his paragraph]

Ali - *You need to read yours.*

Jim - *That's what I was doing. That's why I've got the words.*

1



2



3



4



Ali attempts to help Jim

Ali- *I'll read it!* [Looks at the text] *The farm was brilliant. There was a large stable of horse and lots of chickens. The cows had just calved and one of you... one of our jobs was to.... The world's not actually what you're going to draw- unsuccessfully - it's what it's about in that paragraph.* [Ali carries on reading whilst Jim sorts out the cards he has collected to help him]

Rob starts to lead the group

Rob [points to his drawing] *There! That's them lying down, cos they're lying on the straw.*
[Jim still looks at his cards. Ali carries on reading from the text]

Ali- *What could I draw for number three?*

[No one responds]

Ali- *What could I draw?*

[Rob looks at his copy of the text. Jim has started drawing]

Rob- *Like him carrying straw on his back, cos that's what he's doing.*

Ali- *Where?*

Rob [Points to text with pencil] *There were five of us. We were told to stack some straw bales. It was hot work.*

[Ali starts drawing]

Jim's monitoring of other's drawings as 'texts'

Rob [To John] *What's he hanging out the window for?*

John- *He's not!*

Jim [Looking on]- *He's looking out the window man.*

Rob- *Where's his leg?*

Jim [Pointing to Rob's drawing (5)] *Where's yours?*

Rob- *There!*

Jim- *Where are their ears?*

[Rob draws ears]

Jim- *What's that?*

[Jim then advises Rob on how to improve his illustration]

Rob leads a rehearsal of their retell- Ali again tries to help Jim with the meaning of the task

Rob [Points to Ali] *You have to put them like carrying hay barrels. I'll say he got the idea about getting rid of the cat.*

Jim.... *I don't know what Jim's going to do.*

Jim- *The cow*

Ali- *Just draw a cow.*

Jim- *Not just a cow.*

Ali- *Why you doing a cow?*

Jim- *Cos it says on there* [Points to text]

Ali- *But you don't know what it means.*

Jim- *What? A cow? I don't know what a cow is. Is that what you're trying to say?*

Ali- *No. What does the text mean? Read it!*

Jim- *That's what I'm trying to do*

Ali- *But your just drawing a cow.*

Jim- *I'm not just drawing a cow. I'm going to draw something else.*

Ali- *How? We've only got two minutes!*

Jim- *I don't care.*

[Researcher tells group to prepare to do the retell. Ali and Rob underline sections of the text that they will talk about. Jim and John finish their drawings (6)]

5



6



RETELL

1



John

This first one is where they left at 6 to get the coach to take them to the school camp at Thomas' farm. He was a bit sad cos they were taking him away from his pets, his computer games and his family and his some of his friends. He realised it was just a holiday and the other kids were cheering up cos they were singing songs and telling jokes. So he totally forgot and that his family would be ok without him.

2



Jim

Number 2 is about when they went in the farm and there was a large stable with horse, lots of chickens and cows. The cow had a baby and the boy was feeding the baby. (There you go)

3



Ali

Number 3 is about there were five of them and they were told to stack some straw bales. It was hard work for them and the straw scratched their skin. And it made it itchy. As soon as the farmer's back was turned they started messing around.

4



Rob

First they built some stairs and then jumped off the top and then we built a fort and then we collapsed on the ground and lay in the sun. That's when I had the idea about the cat. I was lying on the spiky straw that felt like a nail of bed... a bed of nails. Eureka I said out loud. What are you talking about? said Andy. Oh nothing I said. I didn't want to talk about it until I had it clear.

Wk 4 Day 3 Grp A

Bookmarks: Read (0.00-3.08):

Solve (3.21-5.57):

Make (6.00-15.40):

Retell (15.57-18.03)

READING

Notes

Barry was not considered by the staff a suitable participant owing to his behaviour track record at the school. At a meeting, Teacher C suggested introducing him to Group A as an experiment. Group A is viewed by the teachers as settled, well organised and diligent and the hope was that this would 'rub off' on Barry.

Barry starts by questioning the by now established reading order. The girls ignore him. Whilst Jill is reading, Barry starts to organise the materials for the task. Kim sees him, takes the cards off him and takes over the job. Barry then picks up the sound recorder and holds it up to Jill's face distracting her. She gets frustrated and motions to strike him (A). He grins and turns to Kim for her reaction. Jill cannot read *trepidation* and so ignores it.

Barry reads in a loud 'comic voice'. Instead of looking at their own texts, Kim and Jill monitor Barry's text and correct any mistakes he makes. Barry reads fluently and with expression. At 'it was obvious' Kim distracts him with the voice recorder, mimicking his earlier actions. He, in turn, mimics the violent gesture Jill had used to repel him (B) but carries on without pause.

Kim loses her place in the text and misses her cue to read. Barry now holds the recorder to Kim's face. She laughs but carries on reading. Kim struggles with *deteriorated* and appeals to Fay who reads it as *des-tor-iated*. Barry continues to hold the recorder and now Kim makes a threatening gesture also, but is laughing (C).

Fay again reads fluently. Unlike the others, her errors don't affect the sense of what is read, suggesting she prioritises meaning over word reading. The others ignore her reading and play with the task materials.

A



C



B



Text reading

1 Jill (W11.00/F12.00/NF8.06)

2 Barry (Not screened)

3 Kim (W12.06/F10.08/NF9.05)

4 Fay (W10.06/F9.08/NF13.02)

Red: Error Blue: corrected error

The Improbable Cat (7)

It was midnight when the coach finally arrived back at the school. All the parents **were** there to meet us- apart from mine that is. Andy's mum suggested that they must have got their dates mixed up and she very kindly gave me a lift home. As we pulled up outside my house I could see that the door was ajar and that a gate-post had been shattered. The car now had a big dent in it. I got my things out of the boot, full of **trepidation** as to what I might find inside the house.

As I entered the kitchen I was greeted by an **emaciated** Billy. His food bowl had been licked clean, his water bowl was empty and he was so thin his ribs were showing through his fur. I put some Pal into his bowl and he wolfed it down quickly- **it** was obvious that he hadn't been fed for days. I was furious and shouted for Mum and Dad, but there was no answer.

'They can't be out shopping at this hour!' I thought to myself.

I went upstairs to their bedroom but it was empty. Things had obviously **deteriorated** since I'd gone away. The bed had been leaned against the far wall and the mattress was now on the floor. A sheet had been nailed across the window and the **floor** was covered with unwashed clothes and dirty dishes. **It** wasn't a room so **much as a den that a bear** or some other wild animal might live in. I went back downstairs again, **dreading** what I would find in the living room....

Inside, the room was pitch black. An armchair was placed with it's back to the door, facing the TV which was switched on with the sound muted. In the chair was **sitting** the cat. To my horror I saw that it had now grown to the size of an adult human being. Also, **it** wasn't curled up on the chair like cats normally do- it was sitting upright and had a smouldering cigar in its mouth. **As** I entered the room it turned its fearsome head towards me and stared for a while. Then it **nonchalantly** took a sip from a glass of wine and turned its attention back to the TV.

Not believing what I was seeing, I ran out of the room.

As the group start this part of the task, Barry is playing with the play dough. He then snatches Kim's pencil (below). Kim gets another pencil and stabs him with it in the shoulder.



Target word: *Trepidation* **Selected:** *fear*

Jill misreads the surrounding passage so that **trepidation** refers to how the character removes his things from the boot and not how he feels. On this basis, she proposes **quickly**. Fay then proposes the correct solution – **full of fear**. Jill again misreads the relevant phrase in the text – **he got them out full of fear** – and so negates **fear** by shaking her head. Fay makes a split proposal – **full of fear** or **full of anger**. Kim collects both cards and says 'Try it'. Fay reads the target phrase correctly – **I got my things out of the boot full of fear as to what I might find in the house**. There is a pause. Jill repeats the first part of the phrase – **I got my things out of the boot full of....** Barry again proposes **fear** and Jill tells him to shut up. Fay tells her it has to be fear because **he is afraid of what he might find in the house**. Kim shouts over her, **calmly** and points to this card. Jill rejects this and places **fear** on the answer sheet.

Target word: *Emaciated* **Selected:** *hungrily*

Barry is unprepared. His text is covered in play dough and he is preoccupied with what he has been making. He gives a theatrical *Hello!* to the camera and clears the mess away so he can see the text. He misreads the text – **As I intended the kitchen** and is unable to read **emaciated**. Jill starts a search of the text – **I was greeted by a...** Barry also starts to read the phrase and is told to shut up by Kim. Barry protests – *I know what to do. It's about the dog!* Kim again intervenes – *You have to read around the word first!* Barry replies *I know what it is. It's ema-k-i-ated*. He picks up **hungrily** and puts it on the sheet then paraphrases the text – *The dog was hungrily...* Kim and Jill negate this and remove the card. Barry protests – *It's about Billy. His bowl had been licked clean!* Jill finds the relevant phrase in the text and agrees. Despite this Jill then reads other candidates from the cards, including **starving**, but doesn't check any of them because she is distracted by another fight between Kim and Barry, (below).



Target word: *Deteriorated* **Selected:** *happened*

Whilst the others are fighting, Fay places **happened** on the sheet and confirms this for the others by reading from the text – **Things had obviously happened since I'd gone away**. No one takes any notice of her. *Right! I've done Kim's!* she shouts, in order to get their attention. *What's yours then?*, says Jill.

Target word: *Nonchalantly* **Selected:** *calmly*

Fay is unable to read the target word. Jill reads an extended section of the text to search for information – **As I entered the room it turned its some feared head towards me and stared for a while. Then it...** Fay chips in **thirstily took a sip from a glass of wine**. Jill negates this but gives no reason. Jill then proposes **calmly** by paraphrasing – **Then it calmly**. Fay glances at the text and agrees and places the card on the sheet.

Notes

Jill - *What could I draw for fear?... I could draw a car and him getting out... Oh no! Him with his bags.*

Kim - *Aye. What can I do?*

Jill [Referring to Barry] *He's doing the food bowls [puts up hand in a 'stop' gesture] leave him alone.*

Barry - *And the dog.*

[Jill and Kim exchange glances and laugh]

Barry - *What you laughing for?*

Kim - *What can I do?*

Fay [Referring to Barry] *What's he doing?*

Kim - *He's doing the dog and the food bowl, so just leave him.*

[Kim notices Barry and Jill whispering about something]

Fay [Taps Kim on the shoulder (1)] *You could do a house.*

Barry [To Kim] - *Jill's seeing Peter. [To camera in a loud voice] Everyone Jill is seeing Peter!*

[Jill and Kim cover faces (2)]

Kim - *Oh my God!*

Fay - *That was on camera - You just made it official.*

Jill [Looking at the camera] *You really spoiled it. Just don't say it Barry!*

Barry [To Kim] *He loves her, she loves him.*

Kim - *Shut up man!* [Slaps him on the shoulder, hits him with the tub for the play dough, repeatedly stabs him with her pencil which breaks. She picks up another pencil and carries on (3)]

Fay [Pointing to her copy of the text with her pencil] *You could do the house.*

[Kim, Barry and Jill have a whispered discussion about Barry's indiscretion]

Kim - *Right! What can I do for 'happened'?*

[Barry and Jill are still talking. Kim eaves drops]

Kim - *What can I do for 'happened'?*

[This time Barry disrupts Kim's appeal by making a phallic shape with the play dough]

Jill - *Howay man,* [slaps her hand on the table] *I'm nearly done!*

Kim - *What can I do?*

Jill [Consults the text] *Um.... You could like....*

Draw a sitting room and it's all smashed up cos something's happened when he's gone. So you could draw something like.... No! The gate! Draw the gate like smashed [gesticulates in the air with pencil] cos the thing on the lock's come off the gate.

Kim [Mimicking Jill's gesticulation with the pencil (4)] - *So like a big one, a small one and then a big one...*

Jill - *Yeah, you could do that.*

Barry - *Mine's done. [To camera] So as you can see mine's done.*

Jill [Thumps Barry on the shoulder] *No! You don't retell it yet! What's that?* [Pointing to what Barry has made, laughing. Barry dismantles what he has made]

Barry [To camera] *Sorry, he doesn't like it.*

[The children then discuss how their video is similar to the Jeremy Kyle show]

1



2



3



4



Barry takes some of Jill's play dough to add to his model. Jill, annoyed, sits up straight.

Jill - *I need that you know!* [snatches back the play dough]

Barry - *Can I borrow this?* [Picks up the play dough again]

Jill - *I need it!* [But lets Barry take it]

Fay - *I'm doing cos he's shocked* [Holds her hands in a gesture of being shocked. No one comments]

Jill - *I can't believe... I'm going to kill you when we get off.*

Barry - *Are you... I'll get you done for murder.*

Jill [Noticing that Barry has been making a love heart with her initials around it]

WHAT! [Jill thumps Barry on the arm (5).

Kim then destroys Barry's model]

Jill [looks at the camera, then at the clock] *We've only got till twenty to. That's ten minutes.*

Barry [To camera] *Yeah so like do you know what I mean?*

[Kim slaps Barry hard on the cheek (6)]

Barry - *Our group's going to win the day.*

Fay - *I'm done.*

Kim - *I'm nearly done*

[Jill then has a conversation with Barry in lowered voices where she again threatens to kill him.]

Fay - *Barry. Jill. Look. My hand's gone yellow*

[Holds hand up but no one takes any notice (7)]

[Barry Jill and Kim carry on discussing Barry's indiscretion]

Jill - *Right! I'll get the camera. Is everyone done?*

5



6



7



RETELL

1



Jill

His friend's mam dropped him off, and he got his bags out of the car and he felt fear within him cos he knew that something had happened in the house.

2



Barry

Right!. This is my play dough man. This is my play dough dog. With his thingy in water. What happened was, when he got in he realised that no one was home and the dog was starving and that and it hadn't been fed in days and the bowls were licked clean and so I don't kind of know what went on. But I read the paragraph.. You could see the dog's bowl. Isn't that disgusting.

3



Kim

After when the boy went in the house he went upstairs and there was no one else but him and the dog and the dog was starving. Something had happened in the room since he'd gone away. The bed had been leaned against the wall and the mattress had been put on the floor.

4



Fay

When he was in the living room he seen when he went in the TV was on but the sound was muted and he seen the cat that was sitting up with a cigar in its mouth. And it took a sip of wine from the glass and turned back to the TV.

Wk 4 Day 3 Grp B

Book marks: Read (0.00-3.31):
Make (6.30-17.30):Solve (3.36-6.24):
Retell (New 0.00-2.46)

READING

Notes

May again reads first. She stumbles at *they must have got their dates* and repeats the phrase several times until it is correct. She misreads *car* as *cat*, Sue whispers a correction sotto voce which May accepts. May works hard to solve *trep-i-dation*.

Whilst Sue is reading May turns towards her so that they are noticeably separated from the other two girls (A). Sue struggles with *emaciated* and is not helped by the others. Unlike previous sessions, Sue is not using her finger to guide her reading which is more fluent as a result and also accurate. Towards the end of Sue's reading, May points to Eve's copy of the text and tells her that she is next (B). Hence she has taken over these duties from Lily. When Sue finishes, May says 'OK' to cue Eve in.

Whilst Eve is reading, May stops attending to the text and arranges the cards (C). Sue joins in, both ignoring Eve. Hence, when Eve misreads *learned* as *learned*, she is not corrected. May's attention turns back to the text just before Lily starts to read. Sue looks for a long time in Lily's direction before looking directly at the camera and then at the text.

Compared to the previous week, Lily is taking great care to read accurately, although the reading is now lacking expression. Her reading now resembles the emotionless drone of the YARC test passages. She initially reads *like a normal cat does* and works hard to correct it to *like cats normally do*. Despite this, she stumbles at *smouldering cigar*, which respectively May and Sue correct for her. Lily ignores the corrections and does not incorporate them into her reading of the text. Again, compared to the other groups, all members of this group pay very close attention to the text regardless of who is reading.

The Improbable Cat (7)

It was midnight when the coach finally arrived back at the school. All the parents were there to meet us- apart from mine that is. Andy's mum suggested that **they must have got their dates** mixed up and she very kindly gave me a lift home. As we pulled up outside my house I could see that the door was ajar and that a gate-post had been shattered. The **car** now had a big dent in it. I got my things out of the boot, full of **trepidation** as to what I might find inside the house.

As I entered the kitchen I was greeted by an **emaciated** Billy. His food bowl had been licked clean, his water bowl was empty and he was so thin his ribs were showing through his fur. I put some Pal into his bowl and he wolfed it down quickly- it was **obvious** that he hadn't been fed for days. I was furious and shouted for Mum and Dad, but there was no answer.

'They can't be out shopping at this hour' I thought to myself.

I went upstairs to their bedroom but it was empty. Things had **obviously deteriorated** since I'd gone away. The bed had been **leaned** against the far wall and the mattress was now on the floor. A sheet had been nailed across the window and the floor was covered with unwashed clothes and dirty dishes. It wasn't a room so much as a den that a bear or some other wild animal might live in. I went back downstairs again, dreading what I would find in the living room....

Inside, the room was pitch black. An armchair was placed with it's back to the door, facing the TV which was switched on with the sound muted. In the chair was sitting the cat. To my horror I saw that it had **now** grown **to** the size of an adult human being. Also, it wasn't curled up on the **chair like cats normally do**- it was sitting upright and had a **smouldering cigar** in its mouth. As I entered the room it turned its fearsome head towards me and stared for a while. Then it **nonchalantly** took a sip from a glass of wine and turned its attention back to the TV.

Not believing what I was seeing, I ran out of the room.

Text reading

1 May (W11.09/F8.06/NF13.09)

2 Sue (W9.06/F7.07/NF7.07)

3 Eve (W10.00/F8.06/NFna)

4 Lily (W9.06/F12.00/NF13.02)

Red: Error Blue: corrected error

A



B



C



Target word: *Trepidation* **Selected:** *fear*

Sue reads the whole of the target sentence in a search for information. None of the members are able to read the target word suggesting that a priori meaning does not play a part. There is a pause after Sue stops reading. Her and May scan the cards, Eve stares ahead into space and Lily is far to the right, off camera. May proposes **fear** and picks up the card, placing it next to her copy of the text. May and Sue exchange glances. There is no justification to the rest of the group nor is there any challenge to answer. The appeal to Lily and Eve *Do you think it's fear?* is awkward and signals some embarrassment as to the tense relationships in the group (giggling, lack of eye contact).

Target word: *Emaciated* **Selected:** *starving*

Sue again reads the target sentence in a search for information. May helps her with emaciated, reading it as emesticated. Sue starts collecting together cards that are potential candidates: happy, starving, noisy, excited. May and Sue discuss these options, laughing as they do so. Eve looks on. Unusually, Sue holds the cards as if in a card game, then laying them onto the table as one might a winning hand (below). May says I think it's starving. Sue challenges – Why? Sue starts to read the text to carry out a text, but stops and places starving on the answer sheet. This time there is no appeal to Lily and Eve. Eve gives a deep sigh before reading the target sentence for 'her' word.

**Target word:** *Deteriorated* **Selected:** *got worse*

None of the members are able to read **deteriorated** (det-or-ated) suggesting that a priori meaning does not play a part here. Eve carries out the initial search of the text but has little say from this point on and is not consulted. She mouths the correct solution **got worse** as Sue and May make the selection, indicating that she concurs with their choice. Sue passes Eve the card. The emphasis is on reaching swift agreement – the prevarication of the previous day when Lily was absent is being curtailed. Hence, the neglect of other intended candidates such as **got damaged**.

Target word: *Nonchalantly* **Selected:** *calmly*

May pre-empts Lily's reading of the text by proposing **thirstily**. Eve shoots Lily a sideways glance. May checks her proposal – **then he thirstily took a sip of wine**. Sue takes the card from May, places it next to her copy of the text and then places it on the table with the others but keeps her hand on it, perhaps suggesting she is not happy with this. Sue and May scan the other cards. Sue proposes **calmly** and may laughs. May checks this and then proposes both **calmly** and **thirstily**. May then turns to Lily – *Calmly or thirstily?* Lily, barely audible, says *Calmly* and May hands her the card (below).



Notes

As before May and Sue empty the pot of dough in front of them (1). They start to separate the colours. Eve and Lily exchange glances. Eve nods. Lily gets up and grabs a hand full of dough (2). May and Sue do not acknowledge this.

Lily [To Eve]- What you doing?

[Eve checks the text which she has positioned next to her work (3)]

Eve- I could do his bed on the floor.

[Lily nods]

Eve- I could put the curtain... the sheet on the window.

Sue [To May] What could I do for fear?

[May thinks but doesn't say anything]

Sue- Shall I do a man with a face?

[The group now work in silence for a time]

[Sue looks nervously around her. She then takes hold of the pot and takes out some blue dough. May and Sue do not acknowledge this]

May [To Sue]- Do you think that's good for Billy's food bowl.

[Sue nods]

[The group now work in silence for a time]

May- I need blue for the water bowl.

Sue [Pointing at the tub] Is there none in there?

[May picks up the tub, looks and shakes her head]

Eve [picking up the tub] I need some brown.

[May breaks off a bit of brown dough for eve and places it in front of her (4). Eve picks it up and inspects it closely (5). Eve then starts to use the dough.

May continues to wait for an acknowledgement from Eve but there is none. She turns back to her work.]

[The group now work in silence for a time]

[Sue gives may some blue]

Sue- Is that enough?

May- Yeah. They weren't looking after the dog properly so there's lots of poop [laughs]

Sue- Eeuurgh! [Laughs]

May- I'm making food... when he gives him some food.

[The group now work in silence for a time]

1



2



3



4



5



Sue [To Eve and Lily]- Are yous done?
 [No answer]
 Eve [To Lily] *What next?*
 Lily- Have you taken something from there?
 Eve [Anxiously] No!
 Lily- Well somebody's took the thing I made.
 [Sue is still looking on waiting for a re-
 sponse]
 Eve- What colour?
 Sue [To May] Do you need this? [Picks up
 some dough. May shakes head (7)]
 [Ali in Group D can be overheard saying
 'We're done!']
 Sue [To may] Have you done?
 May- I'm just doing a box of food. [May uses
 a pencil to mark the box she is making (6)]
 Sue- May, you need to draw the cat.
 Lily- I've done the cat.
 May- Shall I draw the dog? [Starts drawing]

[The group now work in silence for a time]

Eve [To Lily]- What colour should I do the
 sheet?
 Lily [Looks in the tub and takes out some
 orange dough] Orange [lily starts to form it
 into a sheet]
 Eve [Looking in the tub] Why don't you put
 some white on?
 May [Looking straight ahead]- Has someone
 done the boy?
 Sue- Yeah. Me.
 May [Glances at Lily]
 Sue- Are you done yet?
 [Eve and Lily exchange glances. Eve shakes
 her head]
 Lily- I'll put this on the sheet. There. Cover-
 ed the window up. What's that for?
 Eve- It says it was next to the wall.
 [Sue is still waiting for a reply]
 [Lily snatches the dough off Eve (8) and atrts
 to roll it out vigorously. Sue continues to
 look on]
 May- Are yous done? [No reply or eye con-
 tact from Eve and Lily. Sue stands up and
 starts to organise the materials for the retell.
 Lily stands up and moves to switch the cam-
 era off]

6



7



8



RETELL

1



(May narrates all scenes)

It was midnight when I came back. My dad wasn't there. Andy's mum suggested he must have got the dates wrong. So she gave him a lift home. When I got home I could see the door was ajar. The gate post had been shattered. I don't know how that could have happened. The car now had a big dent in it and I got my things out of the boot and full of fear as to what I might see inside the house.

2



food & water bowl

Billy's bowl had been licked clean. I put some water in his water bowl. I put some food in [laughs]. Billy was excited. 'Come on Billy.

3



Sheet over window

mattress

When I went upstairs things only got worse. The bed had leaned against the wall. The mattress was now on the floor. A sheet had been nailed across the window to keep the dog in. The floor was covered in unwashed clothes and dirty dishes. It wasn't so much a room as a den a bear could live in.

4



armchair



[Sue laughs] I went downstairs. There was the cat sitting in an armchair. [Sue sotto voce 'Drinking wine'] It was drinking some wine calmly watching the telly. I hurried out of the room as the cat had now grown to human size.

Wk 4 Day 3 Grp C

Book marks: Read and Solve (0.00-12.31):

Make (12.34-23.00): Retell (23.25-23.51)

READING

Notes

Roy appears at the beginning of the group D video in the background, handing a can of drink which he has hidden under his jumper (banned from the library) to Sam who has been excluded from the session for misbehaviour.

Roy walks back to his group and, still standing, starts reading without acknowledging Ned and Pete who have been waiting for him. Roy struggles as far as *dates mixed up* and then skips most of the paragraph, mumbling to himself. He tries to pick up the text again at *things out of the boot*, but stumbles at *trepidation*. He tells Ned that he has farted and tells him to read the paragraph from the beginning, sliding the text across the table to him. Roy, still standing, then gets some play dough and begins playing with it.

Ned struggles with *ajar*. Roy helps him, telling him '*that means like open*'. Ned carries on reading and Roy leans over so that he too can see the text (A). Ned struggles with *dent*. Roy tells him '*It's got a hole in it*'. Ned struggles with *trepidation*. Pete helps him by reading it very fluently.

When Ned finishes, Pete says 'Right' and starts to organise the cards. Ned, however, decides the group should carry on reading and tells Roy he is next. Roy sits down and starts reading (B). Ned helps Roy throughout, correcting errors (*had a for was so*) and phrases difficult sections so that Roy can repeat them, e.g. *his ribs were showing*.

Ned starts reading paragraph 3 as soon as Roy finishes - Pete doesn't complain. When Ned struggles with *deteriorated*, Roy and Pete insist it is *decorated*. Ned ignores them knowing this is wrong. Pete tries to define *deteriorated*, suggesting it means *got worse*, which is correct but doesn't fit his reading of the word as *decorated*. This suggests he is attending to the meaning of the text, not the individual word. Ned ignores him and reads on. Whilst he reads, Roy refocuses the camera so that he is now no longer in shot.

Pete continues with paragraph 4 as Ned finishes. Pete, who has been listening to the story up until now reads with noticeable fluency and expression, quickly solving *smouldering cigar*. When he finishes he provides a summary for Ned '*The cat is becoming human*'. Ned replies, smiling, '*he sipped the wine*'.

The Improbable Cat (7)

It was midnight when the coach finally arrived back at the school. All the parents were there to meet us - apart from mine that is. (*) Andy's mum suggested that they must have got their dates mixed up and she very kindly gave me a lift home. As we pulled up outside my house I could see that the door was *ajar* and that a *gate-post* had been shattered. The car now had a big *dent* in it. I got my things out of the boot, full of *trepidation* as to what I might find inside the house.

As I entered the kitchen I was *greeted* by an *emaciated* Billy. His food bowl had been licked clean, his water bowl was empty and he *was so thin his ribs were showing* through *his* fur. I put some Pal into his bowl and he *wolfed* it down quickly - it was *obvious* that he hadn't been fed for days. I was furious and *shouted* for Mum and Dad, but there was no answer.

'They can't be out shopping at this hour!' I *thought* to myself.

I went upstairs to their bedroom but it was empty. Things had obviously *deteriorated* since I'd gone away. The bed had been leaned against the far wall and the mattress was *now on* the floor. A sheet had been nailed across the window and the floor was covered with unwashed clothes and dirty dishes. It wasn't a room so much as a den that a bear or some other wild animal might live in. I went back downstairs again, *dreading* what I would find in the living room....

Inside, the room was pitch black. An armchair was placed with it's back to the door, facing the TV which was switched on with the sound muted. In the chair was sitting the cat. To my horror I saw that it had now grown to the size of an adult human being. Also, it wasn't curled up on the chair like cats normally do - it was sitting upright and had a *smouldering cigar* in its mouth. As I entered the room it turned its fearsome head towards me and stared for a while. Then it *nonchalantly* took a sip from a glass of wine and turned its attention back to the TV.

Not believing what I was seeing, I ran out of the room.

Text reading

1 & 3 Ned* (W11.03/F8.06/NF13.09)

2 Roy (W7.05/F13.05/NF15.11)

4 Pete* (W11.03/F10.05/NF7.02)

Red: Error Blue: corrected error



Target word: *nonchalantly* **Selection:** *thirstily*

Pete suggests **thirstily** to Ned. Ned checks it – **it thirstily took a sip of wine**. Ned then checks the cards and inserts **hungrily** into the target sentence, laughing. Ned is distracted by Roy (now off camera) who is making a Christmas tree out of play dough. Roy reaches across, placing some play dough on Ned's copy of the text. Pete throws the card marked **thirstily** at the answer sheet whilst this is going on (below). This effectively ends his contribution to the task. He now concentrates on illustrating paragraph 4.



Target word: *deteriorated* **Selection:** *got worse*

At this stage Ned is working alone. He selects the card marked **got damaged** and checks it by reading part of the target sentence – **things had obviously got damaged**. He places it on the answer sheet but, unsure, picks it up again and appeals to the group 'Who thinks the answer to number three is got damaged?' Pete, who had correctly identified **got worse** as the solution when the group were reading earlier, glances across and says '**obviously got damaged**' then returns to his work on the illustration without expressing an opinion. Ned then says 'But there is also....' possibly remembering Pete's earlier suggestion. He scans the cards which are now in disarray and covered in play dough (below). He is then distracted by something Roy does off camera and laughs. A minute later his attention comes back to the task. Unhappy with **got damaged**, he randomly inserts words into the target sentence (**excited, sadness**) until he spots **got worse**. He repeats the phrase and checks it. He says 'Oh yeah!' and puts it on the answer sheet.



Target word: *emaciated & trepidation* **Selection:** *no selections are made*

Ned is now keen to illustrate what he sees as his part of the story (paragraph 3) and so randomly chooses happy as the solution for emaciated, but doesn't place it on the answer sheet. No selection is made for trepidation. This is Roy's responsibility, but he has already started an illustration for the paragraph containing this target word and takes no part in this activity.

Researcher intervention

The boys quickly fell back into the pattern of previous sessions and were struggling to organise their response to the task. It was agreed with Teacher A, prior to this session, that the researcher would intervene in the hope this would 'kick start' a more considered approach (1). A key aim was to try to encourage the group to use the text as a source of meaning for their reconstructions of the story.

Pete [Pointing to 'thirstily' as a response for nonchalantly] *Is that right?*

Ned - *Number one*

Researcher - *A sip. How much is a sip?*

Roy - *A little bit.*

Researcher - *So if you were thirsty, would you take a sip or would you take more than that? Would you take a sip or a gulp?*

Roy - *Gulp.*

Researcher - *Right. So what does that tell you?*

Pete - *He sipped.*

Researcher - *Lots of the words make sense. Thirstily makes sense because he's drinking but that word there [points to 'sip' (2)] tells you it's probably not thirstily because a sip is a tiny bit.*

Pete - *Hungrily?*

Roy - *Angry?*

Pete - *Sadly?*

Roy - *What's the answer?*

Researcher - *Try some of the words out.*

Pete - *Calmly*

Researcher - *You need to pick the one that fits that bit of the story.*

Pete - *What does that word say?*

Researcher - *Menacingly. That's what that word says.*

Ned - *Menacingly*

Pete - *Is that OK? Is that the right one?*

Researcher - *Well that would be me telling you the answer.*

[To Ned] *What word are you working on? That word is emaciated.*

Roy [Reading] *He was greeted by an emaciated...*

Researcher - *Billy. You can't guess it so far so you have to read on.*

Roy - *Angry?*

Researcher - *So what's happened to Billy?*

Roy [Reading from the text] - *His food bowl was licked clean and his water bowl was empty.*

Researcher - *So why is that? Why was the food bowl empty?*

Pete - *Cos the parents didn't feed him.*

Researcher - *So if they haven't been feeding him.....*

Roy - *Is it not thirsty?*

Researcher - *If they hadn't fed him.*

Ned - *Angry?*

Roy - *Thirsty*

Researcher - *If you read on, he was....*

Pete - *Angry*

Ned [Reading from the text] - *.... so thin...*

Researcher - *.... his ribs were showing through his fur. So that means....*

Roy - *Thirsty isn't it?*

Pete - *Skinny and your bones pop out.*

Researcher - *What do you call it if someone stops eating and they get thin?*

Pete - *Skinny..... Starving.* [Puts hand on card marked 'starving' (3)]

1



2



3



Independent work immediately following the researcher's intervention

Researcher- *Three or four of the words will fit so it's thinking about what fits best, just like we did then.*

[Ned and Pete pick up a card each (4)]

Ned [Reading from the text, holding the card marked 'angry'] *Full of anger as to what I might find in the house...*

Pete- *Is it that?* [Holds up the card marked 'menacingly' (5)]

Researcher- *Try it out* [Researcher leaves]

[Ned places anger on his sheet]

Pete [Reading from the text]- *Then it menacingly took a sip....* [Pete discards the card and picks up a ball of play dough (6)] *Who put this together?*

Ned [Pointing to Roy with his thumb]- *That person there.*

Pete- *Look what he's done. It's turning purple.*

Roy- *Got a rubber? I've drawn a willy on the dog.*

Ned- *What?*

Roy- *I've drawn a big willy on the dog.*

Ned- *What the hell is that?*

Roy- *A skinny dog.*

Ned- *Doesn't look like a skinny dog to me.*

Roy- *It's a lurcher.*

[Pete and Roy work in silence for a time. Ned stares at his sheet. Pete then eaves drops on Group D who are discussing the word 'menacingly']

Ned- *I don't know what 'worse' means.*

Pete [Pointing to his sheet]- *Do you think it's menacingly?*

Ned- *I'm stuck on number three.*

Pete- *For 'got worse' put a person in that got worse.*

Ned [Frowning] *How can I do a person that got worse?*

Pete- *Do the cat right....*

Ned [Starting to read from the text] *Obviously....*

[Pete starts to roll some dough on Ned's sheet, smudging and creasing it (7)]

Roy- *What the fuck have you done?*

Ned- *He's doing menacingly.* [Noticing the damage to his sheet] *Oh... I don't know.*

Roy- *He's writing his fucking name on it now.*

Ned- *What you doing?*

Pete- *I don't know why I put that bit on.*

Ned- *I don't know what to do.... got worse.... I can't do it man.*

Pete- *Shall I draw it out?*

Ned- *You do it and I'll do number one.*

[Pete starts drawing]

Ned- *What are you drawing?*

Pete- *The cat.*

Ned- *As a human?*

Pete- *Yeah.*

4



5



6



7



RETELL

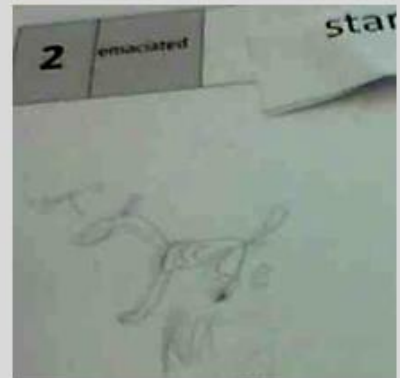
1



Roy

This is someone angry cos no one has fed the dog.

2



Roy

This is the dog starving cos they didn't feed him.

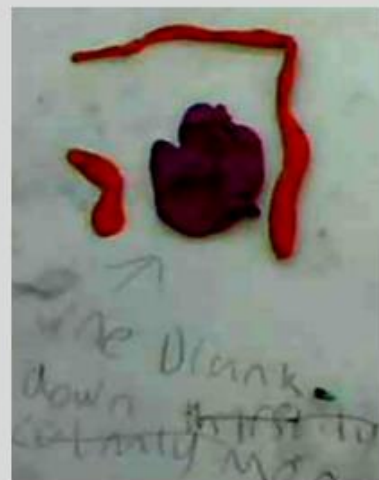
3



Roy



That is a very fat cat as a human.

4



Pete

This one is menacingly wine drinking.

Wk 4 Day 3 Grp D	Bookmarks: Read and Solve (0.00-13.03): Make (13.30-22.30): Retell (23.00-24.50)				
R E A D I N G	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>Notes</p> <p>Sam, who used to be in Group D has been disciplined for an altercation on the way to the session and has been forbidden by the teaching staff from taking part. Instead, he is asked to sit in an area visible behind the group. Rob has set the camera up so he himself is not in shot. The group show signs that the fight has had an influence on their own behaviour which is boisterous and physical compared to previous days.</p> <p>Jim laughs very loudly at something Ali says. Ali says the cards have been arrayed in the shape of a gun. When John sits down Ali lunges at him in a feigned attack. His chewing gum falls out of his mouth and onto the carpet. The other boys laugh. Rob, off camera, gives him a new piece and Ali puts it in his mouth (A). Chewing gum in the library is strictly forbidden. Jim and Ali both want to read first and argue. Jim resolves the argument by lunging threateningly towards Ali and shouting (B). John stays quiet. Ali notices him and orders him to sort out the task materials which John does. Then Ali, not Jim, starts to read.</p> <p>Ali correctly reads <i>door was ajar</i> and <i>dent in it</i> but understands neither and says to the others that the text makes no sense. He repeats each phrase twice to check they are correct. He initially reads <i>trepidation</i> as <i>trep-ee-di-on</i> and then reads it correctly. Jim mimes taking a drag from a cigarette before reading. Meanwhile Ali leers at John and warns him to be quiet or he'll be returned to his old group. Ali is joking and John smiles. Jim again holds the paper to his face whilst reading, possibly suggesting eyesight problems. He confuses one line with another, reading <i>I put some as I was empty</i>. He spends some time fixing this, helped by Rob and Ali. All the group, including Jim, laugh at his mistake. All the group find the reference to <i>Pal</i> funny and joke about Andy feeding his friend to the dog. Ali interrupts Jim at <i>They can't be</i>, pauses to let him finish and then finishes the reading for him.</p> <p>Rob struggles with <i>deteriorated</i> and the others help him. They joke with each other at the attempts they make, including <i>dehydrated</i> and <i>deter-i-ated</i>. Rob misreads <i>mattresses</i> for <i>mattress</i> and <i>in for with</i>, again suggesting he pays more attention to meaning than individual words. All the boys laugh at the description of the messy bedroom.</p> <p>John misreads <i>black</i> for <i>back</i>. Rob corrects him - it's 'back' you idiot. John reads very slowly until he gets to <i>smouldering cigar</i> where all the boys including John laugh and talk about the cat smoking. John starts reading again but Ali and Jim are too impatient and read over the top of him. They are unable to read <i>nonchalantly</i> and also omit to read the last sentence.</p> </div> <div style="width: 50%;"> <p style="text-align: center;">The Improbable Cat (7)</p> <p>It was midnight when the coach finally arrived back at the school. All the parents were there to meet us - apart from mine that is. Andy's mum suggested that they must have got their dates mixed up and she very kindly gave me a lift home. As we pulled up outside my house I could see that the door was ajar and that a gatepost had been shattered. The car now had a big dent in it. I got my things out of the boot, full of trepidation as to what I might find inside the house.</p> <p>As I entered the kitchen I was greeted by an emaciated Billy. His food bowl had been licked clean, his water bowl was empty and he was so thin his ribs were showing through his fur. I put some Pal into his bowl and he wolfed it down quickly - it was obvious that he hadn't been fed for days. I was furious and shouted for Mum and Dad, but there was no answer.</p> <p>'They can't be out shopping at this hour' I thought to myself.</p> <p>I went upstairs to their bedroom but it was empty. Things had obviously deteriorated since I'd gone away. The bed had been leaned against the far wall and the mattress was now on the floor. A sheet had been nailed across the window and the floor was covered with unwashed clothes and dirty dishes. It wasn't a room so much as a den that a bear or some other wild animal might live in. I went back downstairs again, dreading what I would find in the living room....</p> <p>Inside, the room was pitch black. An armchair was placed with it's back to the door, facing the TV which was switched on with the sound muted. In the chair was sitting the cat. To my horror I saw that it had now grown to the size of an adult human being. Also, it wasn't curled up on the chair like cats normally do - it was sitting upright and had a smouldering cigar in its mouth. As I entered the room it turned its fearsome head towards me and stared for a while. Then it nonchalantly took a sip from a glass of wine and turned its attention back to the TV.</p> <p>Not believing what I was seeing, I ran out of the room.</p> </div> </div> <div style="margin-top: 20px;"> <p>Text reading</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>1 Ali (W11.00/F12.00/NF13.02)</td></tr> <tr><td>2 Jim (W8.00/F7.07/NF9.05)</td></tr> <tr><td>3 Rob* (W10.09/F/12.10/ NF16.00)</td></tr> <tr><td>4 John* (W10.00/F7.07/ NF7.02)</td></tr> </table> <p>Red: Error Blue: corrected error</p> </div> <div style="margin-top: 20px;"> <p>A</p>  <p>B</p>  </div>	1 Ali (W11.00/F12.00/NF13.02)	2 Jim (W8.00/F7.07/NF9.05)	3 Rob* (W10.09/F/12.10/ NF16.00)	4 John* (W10.00/F7.07/ NF7.02)
1 Ali (W11.00/F12.00/NF13.02)					
2 Jim (W8.00/F7.07/NF9.05)					
3 Rob* (W10.09/F/12.10/ NF16.00)					
4 John* (W10.00/F7.07/ NF7.02)					

Target word: *Trepidation* **Selected:** *fear*

Jim's proposal **fear** is identified and justified using a sense of the first paragraph as indicating foreboding. Jim says *Aye! Cos he's scared!* Ali proposes a quasi candidate **thirsty** (misread from **thirstily**). Ali justifies it by saying He was very thirsty to get back into the house. A dilemma is caused by Rob's proposal of **hope** because it fits equally well as **fear** with the specifics of the target sentence and the wider sense of the story. Instead of managing the dilemma at this stage, by returning to the sense of the paragraph, the dilemma is minimised and the counter proposal **hope** is essentially shouted down by Ali who places **fear** on the sheet. John, supporting Rob, says *It can't be fear*. Ali snaps at him (jokingly) *Shut up!*

Target word: *Emaciated* **Selected:** *hungrily*

Ali starts by listing candidates at random – *An calmly Billy; An noisy Billy; An sadness Billy*. Rob proposes **starving**, and Jim agrees, holding his text up to Ali's face and pointing at it. Ali shouts *Why?* And holds his head in his hands (below).



Jim says *It's starving cos his ribs were showing through his fur*. Ali's rejection of **starving** is because it makes no sense when inserted into the target sentence – *As I entered the kitchen I was greeted by an starving Billy*. This leads to **starving** being dropped as a viable candidate. However, following this logic there are only two feasible candidates: **excited** and **anger**. The former is the only fit for grammar but it contradicts the sense of the story (that Billy the dog has been neglected and is starving). Hence, **excited** is not pursued as a candidate but is rejected in favour of the more syntactically awkward but closer fit to sense – **hungrily**, which is proposed by Jim. The others negate **hungrily** because it does not fit grammatically. Jim justifies his selection – *He's hungry – hungrily – Cos you can see his ribs through his fur*. Rob challenges this – *An hungrily Billy?* Ali and John tell him it doesn't make sense. Jim tells them to read through the other sentences, and John does. Ali points to John and tells him to *Shut up!* (below)



Jim reads from the text – *His food bowl had been licked clean*. He repeats his proposal of **hungrily**. Ali feigns losing his temper. *Who is number two?* Jim says he is. *Right, you're number two so you should do whatever you feel*. Rob says *I bet he gets it wrong*. Ali picks up **Hungrily** and throws the card onto the sheet. (below). As he does so Rob says *It'll be starving*. Five minutes later Jim points to the text and tries to insert **starving**, but again he reads it as **an starving Billy** and rejects this option again.



Target word: *Deteriorated* **Selected:** *got worse*

Ali reads the target sentence and Rob proposes **got damaged**. Ali agrees and puts this card on the sheet. Ali slaps John's text (below)- *Four! Read number four!*



John starts to read. Rob says *No! Got worse!* and points to this card. Ali negates this - *It's got damaged because the mattress.. the sheet was pinned to the wall*. Ali gestures with his arms to mime pinning the sheets to the wall (below)



In contrast, Rob justifies his choice by reading from the text - **I went upstairs to their bedroom but it was empty. Things had obviously got worse since I'd gone away**. Jim removes **got damaged** and places **got worse** on the sheet. Ali swings back on his chair and shouts *Right! If it's damaged I'm going to slap everyone of you!* Rob says *If it's got worse we're allowed to slap you!* Jim says *Alright? Really hard though!* Jim slaps his own cheek hard to demonstrate (below). Ali stops smiling and glances across at John.



Target word: *Nonchalantly* **Selected:** *thirstily*

Ali reads the target sentence. Despite this, John reads the same sentence to himself using his finger as a guide. Rob proposes **calmly** and **thirstily**. Ali proposes **thirstily**. Rob throws this card across to Ali. John negates this - *If it was thirstily I wouldn't be a little sip-* but he is ignored. Jim proposes **menacingly**, even though he has to ask Rob to read what is written on this card. (The card was probably selected because it ends in *-ly*). John says *Shall I... I'll put thirstily*, and places the card marked **thirstily** on the sheet.

Jim's focus on word and sentence level meaning

Ali - *Howay. Do your own pictures!*

[Jim has collected the cards up and asks the researcher if the words they have selected are right. The researcher tells them that two are wrong but not which two. The researcher leaves]

Jim [Holding a card marked 'anger' shows it to Rob] - *What does that say there?*

Rob - *Anger*

Jim [To Ali] *I think it's anger me- for number one. Read it.*

Ali [Reads from the text to himself] ... *into the house full of anger.... I think it's fear.*

Jim - *Sir says two are wrong. Read mine with starving.*

Ali [Reading from text (1)] ... *an starving Billy....*

Jim - *A starving Billy.*

Ali - *An starving Billy.... No. It doesn't matter- we got three out of four. I'm going to draw.... What is it... Billy?*

Monitoring John's drawing

Rob - *John has to draw the cat in a chair. [Looks at his drawing] No man! It's a fully grown man!*

John - *Oh!*

Jim - *It stands up.*

Rob - *How could a cat stand up?*

Ali - *Our dog can dance [puts arms in air (2)]*

Jim - *Cats can dance too. [To Rob] Can't they? Can't dogs dance?*

Rob - *I've never heard a cat dance.*

Jim - *I have. Just hold its paws, make it stand up and just move.*

[Jim shuffles cards then lays them out in an array so he can see them (3). He has not drawn anything yet.]

Jim's continued focus on word meaning

Ali - *That's mine done.*

Jim [Pointing at Ali's drawing (4)] - *What's that?*

Ali - *He gets off the bus and then he gets a lift home.*

Jim [Points to the target word on Ali's text (5)] *What does that mean? You have to write what that...*

Ali [Smiles in resignation] *Alright. I'm doing it.*

Jim [Reading from the text] *I got my things out of the door [boot] full of.... I think that will be that one.*

[Places 'menacingly' on Ali's sheet. Ali takes no notice. Jim removes the card]

Rob [Referring to his drawing] *There's the bed.*

John [Referring to his own drawing] *He's drinking wine.*

Rob - *There's the bed look.*

Jim - *I don't know what to draw. A skinny cat?*

Rob - *There's the mattress.*

Jim - *Where's the bed?*

Ali - *I'm done.*

1



2



3



4

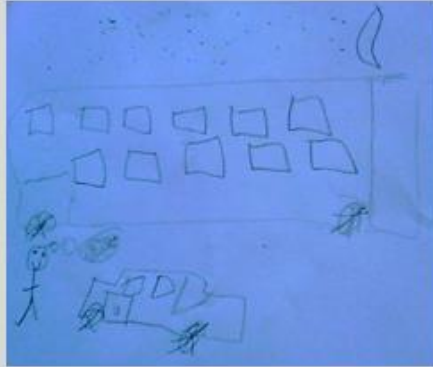


5



RETELL

1



Ali

Number 1 is about how they come back on the bus at midnight and how the neighbour gives him a lift home. He's saying 'Thanks for the lift.' There's the car and there's the bus and there's the moon.

2



Jim

Number 2 is about when he comes back and then he finds Billy with his bowl licked clean and his water bowl as well.

3



Rob








This one shows when he's in the bedroom and all the mess is on the floor and he's dead shocked how it all got worse.

4



John

This is inside the room where it was pitch black. The cat was sitting on the chair and it was drinking wine and a cigar in its mouth.

Wk 4 Day 4 Grp A		Book marks: Read (0.00-3.22): Make (5.14- 15.30):	Solve (3.23-5.13): Retell (15.39-16.55)						
R E A D I N G	<p>Notes</p> <p><i>(This session is observed by another pupil who also controls the camera)</i></p> <p>Betty's reading is again peppered with simple errors that break up the sense of what is read, meaning that she has to keep stopping. Instead of <i>shopping</i> at she reads <i>stopping</i> at which, in her dialect, means <i>staying</i> at. Kim and Fay talk about the materials and Jill writes on her hand with a pen.</p> <p>Jill's reading contains many simple errors that disrupt meaning (<i>sense/scene; stuck/struck</i>). The others ignore these but Betty intervenes when <i>labrador</i> is read incorrectly. Both laugh and Jill covers her face and says she doesn't care (A). After finishing reading she laughs and covers her face again (B). Each reader seems to respect the other's property rights over each paragraph in the text when it comes to 'easy' words, but 'hard' words are becoming fair game.</p> <p>Kim gets stuck on <i>outnumbered</i> and is helped by Betty. Kim accepts her help but shushes her and waves her away (C). Hence, when she reads <i>particularly</i> as <i>practically</i> Betty does not help her, nor does she when <i>deafening</i> is read incorrectly. Meanwhile Jill plays with the materials, pulling faces at the student observer. Kim notices and shouts at her to shut up.</p> <p>Fay appeals to Kim, not Betty, for help with <i>anaesthetised</i> – Kim tells her <i>ant-uai-ised</i> – which Fay accepts.</p>	<p style="text-align: center;">The Improbable Cat (8)</p> <p>As I ran out of the door I bumped into Mum and Dad. They had been shopping at the all night supermarket and were carrying bags full of cat food. I was livid and shouted at them to tell me what was going on.</p> <p>'Don't shout so loud or you'll spoil everything' said Dad in a faraway voice. 'It won't be long now.'</p> <p>Before I had time to ask him what he meant, Billy ran in the front door barking furiously. Following behind him were all the dogs who lived on our street.</p> <p>This was the plan I had thought of at the farm. What better way to get rid of a cat than with the help of its old enemy, the dog? I chased after the pack of hounds into the living room and found a scene of pandemonium. In the middle of the room was the cat, standing upright and lashing out with its razor sharp claws. A labrador called Henry had one of the cat's legs in its vice like jaws. Meanwhile a poodle called Benny had hold of the cat's tail and was tugging for all he was worth. Trying to help, I grabbed a tennis racket and struck the monster a blow on the head with it.</p> <p>If the cat had stood its ground it would probably have been too strong for us. But it was outnumbered and the dogs, particularly Billy, all fought bravely. So, with a terrifying howl, the cat leapt across the room and through the front window with a deafening crash. We all ran to the front door just in time to see it jump over the hedge and into the road. Suddenly there was a screeching of brakes and then a crash. In the headlights we could see that the cat was dead- pulverised by a passing petrol tanker.</p> <p>After that things slowly returned to normal. In fact, Mum Dad and Jade recovered quicker than I did. Maybe that is because they were anaesthetised by the cat and can't remember. But I can remember everything and often wonder where the cat came from. What would have happened if the cat had lived longer? What did Dad mean when he said 'it won't be long now'? I'd never know the answer to these questions. Maybe it was better that way...</p>	<div style="font-size: 2em; font-weight: bold; margin-bottom: 10px;">1</div> <div style="font-size: 2em; font-weight: bold; margin-bottom: 10px;">2</div> <div style="font-size: 2em; font-weight: bold; margin-bottom: 10px;">3</div> <div style="font-size: 2em; font-weight: bold;">4</div>						
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The camera is initially focussed on Fay. She waves the camera away towards Betty who is now talking.

Target word: *Livid* **Selected:** *furious*

The selection is made by Betty whilst the other members are concentrating on the reading of the text. The selection is not discussed, challenged or even acknowledged at any time, suggesting that Betty has enough status to operate independently of the group whilst the others must run their proposals by her. The fluency with which **livid** is read suggests that this selection was made on the basis of a priori meaning.

Target word: *Pulverised* **Selected:** *killed*

Betty says *I think Kon's is either killed or run over*. Jill mimics being killed and screams. Betty finds the relevant section in the text but only reads – **by a passing petrol tanker**. Not waiting for her to finish or to test the competing candidate **run over**, Jill takes the card marked **killed** and places it on the answer sheet. Betty then gets some materials so she can start her illustration. Whilst she does this Kim takes the card off the text and holds it against the text. *No! It's not killed. Look! It says [in the text] the cat was dead*. Jill says *Dead?* Then there is a pause as they check the text. *Yes*, says Jill in a condescending tone, *Killed by a passing petrol tanker*. Jill looks at the camera and the student behind the camera laughs. Kim replaces the card.

Target word: *Anaesthetised* **Selected:** *hypnotised*

Whilst Jill and Kim discuss **pulverised**, Fay holds up the card marked **hypnotised** to Betty and says *What does that say?* Betty reads the card correctly and Fay says *That's right*, suggesting she was testing Betty. She places it on the card. Kim and Jill challenge her – *How do you know?* Fay reads **Maybe this was because they were hypnotised by the cat and can't remember**. She looks across at Betty (not Jill and Kim) for her approval. *Ya!* Says Betty in an American accent. *She got a good memory. Ehh! I got it right!* Fay says to the camera and raises her hands in triumph (below). This incident suggests the power relations in the group. Betty makes a selection for **livid** that she doesn't have to justify and is not challenged. Fay on the other hand seeks approval for what she is doing and is automatically challenged.



Target word: *Pandemonium* **Selected:** *damage*

The girls start work on their illustrations. Jill complains *I haven't done mine yet you know!* **I chased after the pack of hounds into the living room and found a sense** [misread for scene] **of...** and shakes her head from side to side looking at the cards. Betty reads the text silently to herself. Kim also looks at the cards. At this point the student behind the camera asks Jill if she would like a close up – Jill smiles and says no. Whilst this goes on Kim proposes **fighting** sotto voce, suggesting she is unconvinced. She then picks up the card marked **confusion** and puts it on the answer sheet. Betty misreads from the text **I found a sense....** And looks at the answer sheet. Kim repeats the phrase to confirm her answer – **I found a sense of confusion in the middle of the room**. Because Kim has omitted the full stop after **confusion**, her suggestion sounds wrong. Jill points to the relevant section of the text and reads it to herself. Jill insists that they reread the whole sentence aloud, again misreading **sense** for **scene**. *That just does not make sense Kon!* says Betty rather theatrically. Kim doesn't defend her candidate but picks up another card. **Damage!** She shouts. Jill agrees. Kim places this card on the answer sheet. *I was right!* She smiles and points to her copy of the text. (below). This performance is similar to Fay's and suggests that the student camera operator is changing the way the group make claims for and celebrate perceived successes. Jill then complains *What can I do [draw] for damage?*



Notes

[The camera operator is a friend of Jill and Kim's and focuses on their work. She moves the camera so that it only shows Betty, Kim and Jill]

Jill - *What can I do for damage?*

Kim - *Just put a smashed window.*

Jill [Exasperated, holds hands out (1)] *No! You've got to do something from the story Kim!* [Jill reads her copy of the text (2)] *It ripped the settee! Fay! What are you doing?*

Fay [Moving the camera] *She moved it over there so you can't see me!*

[The group chat about the next lesson and also Barry's exploits during the previous day's session. The girl who is observing the group asks something that is inaudible. While Jill and Kim talk to her, Betty works]

Fay - Betty [Hold up her work (3)]

[Betty carries on working]

Fay - Betty..... Betty, *is that alright? Betty!*

Betty [Not looking up] *What is it?*

Fay - *hypnotised.*

[Betty looks up and laughs]

Fay [Offended] *Well that's what you told us to do!*

[Jill looks at her sheet and thinks]

Jill - *Do you know what? I'll just do it torn cos it had it's sharp claws out* [Makes clawing gesture in air] *So it ripped it* [Makes ripping gesture on her sheet ((4))]

[The group continue to work, adding play dough to their designs. As before, they discuss their choice of colours and the fair distribution of the dough]

Jill - *We need more blue* [laughs]

Betty - *Is there not any more in there?* [Points to tub] *Oh my God!* [To Jill] *You took my colour! What colour do you need?*

Jill - *Pink* [Gives dough back to Betty]

Kim - *There's some in there.* [points to pot]

[Fay gets up and leaves, taking her work with her]

Jill - *Fay, are you done? Why are you taking your picture with you?*

Fay - *To see what else to do.*

Jill - *Fay! You've got to be in it* [Looks to camera]

Fay [Reluctantly] *I know that.* [Returns to seat]

Kim - *What colour will I do the track marks?*

Jill - *Black*

Kim - *There's no black.*

Jill - *Gray*

Kim - *Gray. There's no gray*

Betty [Smiling at Jill] *Brown*

Kim - *I've just used brown.*

Jill - *Do green!* [Laughs]

Betty - *Do brown*

Kim [Unaware she is being teased] - *I'll do green.*

1



2



3



4



The researcher then visits the group and discusses the images the group have made. He asks what a fifth picture might look like that described where the cat came from. At this Betty jumps up, excited.

Betty- *You could do like a planet!* [Makes hand in the shape of a globe (5)] *Cos it could be like and alien. I need like green!* [claps her hand to indicate urgency] *Lots of colour!* [Kim passes her some]

Kim- *It'll be green and blue.*

Jill [To Betty] *Shall we tell the story whilst you're doing the fifth picture?*

Betty- *I know cos I need to do the first one remember.*

Kim- *I'm good at drawing planets!*

[Kim tries to get her pen to work but it won't. Instead of scribbling on some paper and defacing the texts, she draws on her hand. Jill does likewise (6)]

Betty- *What are you doing? I'm doing it here.*

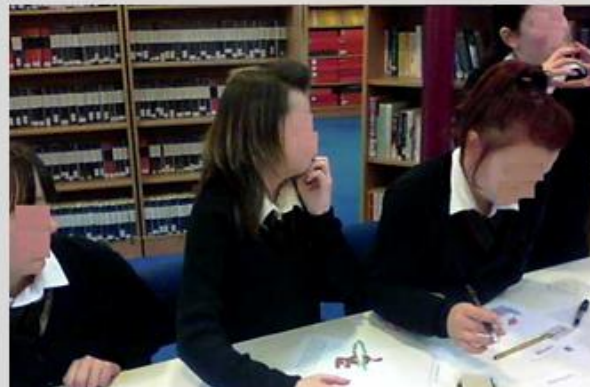
[Kim and Jill stop]

Kim- *I'll show you how to do a planet.*

Betty- *I can do a planet. I'm just squishing this down and making it look like a planet.*

[Betty's picture of the origin of the cat is shown below. Despite her decision that the cat is an alien, the planet in the picture is clearly meant to be the Earth (7)]

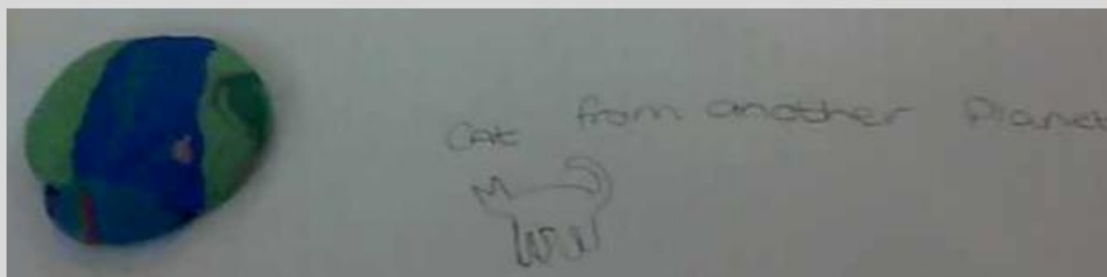
5



6



7



RETELL

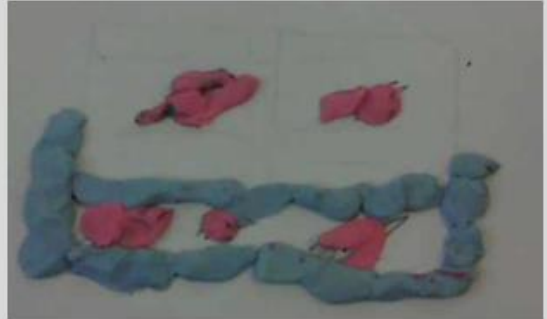
1



Betty

His mum and dad went out shopping all through the night and he bumped into them as he was walking through the door and he was furious and he shouted at them asking them what was going on and his dad shouted to him 'Don't shout or you'll spoil everything'... and, erm he heard barking furiously, and he heard barking from the door and it was all the dogs from the street.

2



Jill

He chased a pack of hounds into the living room and he found out that it was all damaged and that the cat had ripped up the settee.

3



Kim

The cat crashed into the hedge and then he got run over by a petrol tonk.. a petrol ... truck.

4



Fay

No one was making any sense anymore in the house and the boy thought that maybe it was because the cat had hypnotised everyone and they can't remember anything and they wonder where the cat came from.

Wk 4 Day 4 Grp B

Book marks: Read (0.00-3.31):
Make (5.40-20.15):Solve (3.38-5.37):
Retell (20.55-22.41)R
E
A
D
I
N
G

Notes

Sue sets the camera up- the lens again excludes Lily. The group organise themselves in silence and with minimal eye contact (A). May, not Lily, distributes copies of the text and is the first to read as previously. In this group reading order roughly correlates to status.

Another class comes into the library whilst she is reading. They are very noisy but she is not distracted. Her only problem is a substitution of *in* for *on* which she self corrects.

Sue again reads without using her finger. She misreads *a* for *the* and *in* for *and*, the latter causing her to lose the meaning of what she read but was not corrected. May ignores these minor errors. Sense is also lost when she omits full stops (*) and again she does not rerun to regain sense. May helps her with *pandemonium* but both ignore *scene* and this is omitted.

Eve does well to work out *out-numbered* but stumbles at *particularly* which is read as *particular*. In contrast to Sue, Eve reads one word at a time and so does not notice the lack of sense- she doesn't pause. Eve struggles with *deafening* and reads it as *de-fen-ding*. She stumbles over but manages to solve *pu-ver-ised*. In both cases May and Sue do not help. Instead, they ignore her and busy themselves with organising the materials.

May and Sue continue sorting the materials up to * in paragraph 4. Lily reads this section of text fluently and expressively despite the substitution of *quickly* for *quicker*. After this point, May and Sue turn their attention to the text and closely monitor what Lily reads. At this juncture Lily's fluency breaks down and the reading becomes laboured and mechanical. When she makes a minor error, substituting *I* for *in*, May very quickly snaps a correction at her with no eye contact made. When Lily finishes, Sue gives her a look of (mock?) sympathy. Eve glances at her and smiles. May makes no eye contact (B).

The Improbable Cat (8)

As I ran out of the door I bumped into Mum and Dad. They had been shopping at the all night supermarket and were carrying bags full of cat food. I was **livid** and shouted at them to tell me what was going on.

'Don't shout so loud or you'll spoil everything' said Dad in a far-away voice. 'It won't be long now.'

Before I had time to ask him what he meant, Billy ran in the front door barking furiously. Following behind him were all the dogs who lived **on** our street.

This was the plan I had thought of at the farm. What better way to get rid of **a** cat than with the help of its old enemy, the dog? I chased after the pack of hounds into the living room and found a **scene of pandemonium** * In the middle of the room was the cat, standing upright and lashing out with its razor sharp claws. A Labrador called Henry had one of the cat's legs **in** its vice like jaws. Meanwhile a poodle called Benny had hold of the cat's tail and was tugging for all he was worth * Trying to help, I grabbed a tennis racket and struck the monster a blow **on** the head with it.

If the cat had stood its ground it would probably have been too strong for us. But it was outnumbered and the dogs, **particularly** Billy, all fought bravely. So, with a terrifying howl, the cat **leapt** across the room and through the front window with a **deafening** crash. We all ran to the front door just in time to see it jump over the hedge and into the road. Suddenly there was a screeching of brakes and then a crash. In the headlights we could see that the cat was dead- **pulverised** by a passing petrol tanker.

After that things slowly returned to normal. In fact, Mum Dad and Jade recovered **quicker** than I did. Maybe that is because they were **anaesthetised** by the cat and can't remember. But I can remember everything and often wonder where the cat came from. (*) What would have happened if the cat had lived longer? What did Dad mean when he said 'it won't be long now'? I'd never know the answer to these questions. Maybe it was better that way...

Text reading

1 May* (W11.09/F8.06/NF13.09)

2 Sue (W9.06/F7.07/NF7.07)

3 Eve (W10.00/F8.06/NFna)

4 Lily (W9.06/F12.00/NF13.02)

Red: Error Blue: corrected error

A



B



2

1

3

4

As Lily finishes reading, Sue shoots her a glance that looks consoling or sympathetic. Again Lily is off camera.

Target word: *Livid* **Selected:** *furious*

Sue asks May, *What's the first one?* May reads **I was livid and shouted**. Sue says *That means angry.. Like furious* and picks up this card. Sue passes the card to May, who puts it on the answer sheet. Sue then asks, Lily as an afterthought, *Do you think it's furious?* Lily is off camera, but must nod because May and Sue quickly turn their attention back to the text. Eve nods but no one pays her any attention.

Target word: *Pandemonium* **Selected:** *confusion*

May says the target word, proposes **confusion**, picks up this card and places it so that (only) Sue can see it. As she does this Sue glances towards Lily. May checks her selection by inserting it into the target sentence. There is a pause after the check indicating some hesitation about selection. Eve prepares to make a comment but before she can do so she is cut off by May who repeats the check. Satisfied, she passes the card to Sue who places it on the answer sheet. There is no consultation or appeal to Lily and Eve this time.

Target word: *Pulverised* **Selected:** *crushed*

Eve reads the target sentence. As with group D the phrase **petrol tanker** is misread as **patrol tanker**. Whilst Eve is reading, May picks up the card marked with **run over** and places it near her own copy of the text, but in a position where Eve can see it. She then interrupts Eve – *I want to try run over*. May ponders this but seems to change her mind. Sue reaches for **crushed** and places it on May's text. May checks this by inserting it into the target sentence. When May finishes, Sue quickly says *Yeah! Crushed*, snatches the card up and passes it to Eve. Sue is grinning and as she passes the card, May says something inaudible and slaps her hand hard on the table (below). Sue wriggles in a kind of spasm and gives a nervous laugh (below).



Target word: *Anaesthetised* **Selected:** *hypnotised*

May pre-empt's Lily's reading of the target sentence by saying *and I think that one's hypnotised*. Sue checks this by inserting it into the target sentence. Sue and May agree. May turns to Lily. *Do you think it's hypnotised?* There is no sound from Lily and she is off camera. After a short pause, Sue says *Yeah, it's hypnotised* and throws the card in Lily's direction (below).



This task marks the final break up of the group, despite the efforts of May and Sue to rescue the situation.

Sue goes to get some materials. There is a short pause where May, Lily and Eve sit in silence. May then turns to Eve, smiles and says: *Do you know what, yesterday my phone went off twice. Once cos someone was texting us, the second time someone tried phoning us.* Eve stares at the table and says nothing. After a short pause, May picks up a pencil and starts drawing. Eve watches her. Sue then arrives with the materials for the task.

May- *It's all mixed.*

Sue- *I know. [Hands some to Lily and Eve (1)] This is for you.*

Eve [To Lily] *What shall I do?*

May [To Lily] *Just do something flat- like a flat cat shape.*

Lily- *Shall I help you Eve?*

Sue [To Lily] *You could do a man with... you know... swirly eyes [Makes a swirling motion in front of her eyes (2)].*

Lily- *How?*

May [To Lily] *You know that wheel thing....*

[Lily and Eve do not acknowledge May's suggestion. From now on they work in isolation from May and Sue. For the rest of the session May and Sue say very little to each other]

Eve [To Lily] *We could do the cat crushed.*

Lily- *Uh huh. Like do this. Look. Do an outline of the head but do it flat on the sheet right. Wait there. I'll do the head first right. The head needs to be round. I'll do the head first right?*

Eve- *And then.*

Lily- *You do the arm*

Sue [To May] *I need to do two men.*

Lily- *I'll do the head here.*

Eve- *We need its eyes*

Lily- *Do the eyes which are flat right? Then should I do the body? Right! I need legs.*

[Group works in silence]

Eve- *I need to make them smaller.*

[No response from Lily]

Eve- *I cannot do eyes.*

Lily- *That's fine. Eve, that's fine. Do another one if you don't like the eyes. There's the head look [Laughs]. The head's fine. We'll do the body.*

May- *That's supposed to be white.*

Sue- *I've got some here.*

May- *I'll just do a pink one.*

Sue- *No, use this [Helps May with her picture]*

Lily- *There's the body. Shall I do the arms?*

Eve- *I'll do an arm.*

Lily- *There's the left arm.*

Eve- *It's a bit bit bit long. It looks like a teddy bear.*

Lily- *Shall I do the eyes?*

1



2



Lily- *Wait there! I want to do the mouth.*
 Eve- *What about the nose?*
 Lily- *Don't need a nose.*
 Eve- *He needs a tail.*
 Lily- *Can I do the tail?*
 Eve- *I want to do the tail.*
 Lily- *Look. I'll do the tail cos tails can be very very long*
 Eve- *Fine. I'll do something else.*
 [Sue looks across at them and frowns but says nothing]
 Eve [Inaudible]
 Lily- *No no no. I was a fat tail cos it did look like a human being.*

[Lily finishes making the tail and rubs hands together]

Lily- *Right. Now mine.* [Reads from the text] *Things slowly returned to normal blah blah blah.*
 Eve- *Hypnotised. How would you do it? A person with swirly eyes* [mimics the gesture Sue made earlier (3)]
 Lily- *Yeah*
 Eve- *Shall I do a head?*
 Lily- *No. It's ok I think.*
 Eve- *Shall I do one swirly eye?*
 Lily- *No. I want to do one here. You can do the body.*
 Eve- *I can't do bodies.*
 Lily- *You can do the eyes cos I like doing the funny eyes.*

[At this point Sue and May leave to get some card to make puppets with. When they return Sue moves the camera so that it focuses on Lily and Eve (4) but then moves it back to its original position. May offers Lily and Eve some of the card they have collected (5)]

Lily- *We've got paper ones. We don't need ones.*
 Sue- *Are you done?*
 Lily- *I'm just making the body.*
 Eve [Shows what she has been making]
 Lily- *Smaller*
 Eve- *Like that?*
 Lily- *Smaller.*
 Eve- *I can't do it any smaller.*
 May [To Lily] *I borrow some of this?* [Reaches across for some dough (6). Silence from Lily]
 Sue- *There's some here.*
 May- *Oh.*

[Lily finishes and leaves. She returns with the researcher. She has asked the researcher if her and Eve can work separately from the others]
 Researcher- *What do the rest of you think?*
 Sue- *Together*
 Lily- *Cos me and Eve want to do our own.*
 [Sue frowns and looks confused]
 Researcher- *Everyone can do what they want to do.*
 Lily [To Eve] *Are you staying here or do you want to work with me?*

[Eve nods]

Lily- *It's me and Eve.*
 Researcher- *Are you alright with that Sue?*
 [Sue doesn't look up but nods. Researcher departs. Eve looks at Lily and grins. Lily then leaves again. Eve watches May and Sue who draw in silence]

Eve- *Shall I draw dad?* [Holds up a piece of card (7)]
 [Sue and May ignore her]



3



4



5



6



7

RETELL

1



(May does the whole retell with a considerable amount of expression. She refers to the text as a prompt to support her recreation of the story)

As I went out the door I bumped into muan. I was furious! They had been shopping and all.... at he supermarket. Their bags had lots... loads and loads of cat food in. The cat was changing into the devil.

2



This was the plan I thought of on the farm. What better way to get rid of the cat than its closest enemy the dog? So Billy rounded up all his dog friends and they headed.... They ran into the sitting room and I followed the pack of dogs into a scene of fighting.

3



If the cat had stood its ground it would have been too strong for us. But it was outnumbered by all the dogs. The cat leapt across the room and through the front window. It got crushed by a passing petrol tanker.

4



After things slowly returned to normal. Muan, dad and Jade recovered quicker than I did. That's cos they were hypnotised by the cat. That cat was crushed so lie's back to normal. Bye bye.

Wk 4 Day 4 Grp C

Book marks: Read and Solve (0.00-9.41):
Make (9.42-21.56): Retell (22.12-22.38)

READING

Notes

Pete shouts across the room to Sam and invites him to join the group, but Sam declines. Meanwhile Roy refocuses the camera so that only Pete and Ned are in shot. Pete notices this and resets the camera. Roy then runs across the room and starts climbing a pillar (A). When Pete has finished, Roy again moves the camera so that it will not have him in shot. At this point the researcher intervenes and sets the camera up so all are in shot.

Again Roy stands whilst he is reading, swinging back and forth on the chair he leans upon (B). Roy ignores all the first paragraph apart from the target sentence which he reads with help from the others. They then work to agree what *livid* means before Pete is asked to read paragraph 2. Most of paragraph 1 is unread. Roy now moves out of shot.

Pete reads up to *pandemonium*, puts the text down and slaps his hands on the table whilst he looks at the cards. Ned says 'But shouldn't you read it all?' But Pete ignores him and makes a selection. Pete complains that Roy has started an illustration without knowing what he is doing. Ned starts reading paragraph 3. Most of paragraph 2 remains unread.

Pete does not start his illustration but picks up the text to follow what is read. He helps Ned with *particularly* and *terrifying howl*. All the boys laugh when they discover that the cat is dead. When Ned stumbles on *pulverised*, Pete suggests *pivoted* and Roy suggests *perverted*. Ned works very hard to solve this word and segments it (*pul-ver-ised*), without being able to put these segments together. Pete decides *pulverised* means *run over* and so stops Ned from wasting his time on this. (*It's run over man!*)

Pete asks Roy to read the final paragraph. Roy walks back into shot and starts to read the target sentence *Maybe it is because..* Meanwhile Pete moves the camera so Roy is in shot. Roy gives his copy of the text to Ned- 'You're reading that'. Roy refuses to read or to be filmed. Ned reads the final paragraph whilst Pete and Roy argue over the camera.

The Improbable Cat (8)

As I ran out of the door I bumped into Mum and Dad. They had been shopping at the all night supermarket and were carrying bags full of cat food. I was **livid** and **shouted** at them to tell me what was going on.

'Don't shout so loud or you'll spoil everything' said Dad in a faraway voice. 'It won't be long now.'

Before I had time to ask him what he meant, Billy ran in the front door barking furiously. Following behind him were all the dogs who lived on our street.

This was the plan I had thought of at the farm. What better way to get rid of a cat than with the help of its old enemy, the dog? I chased after the pack of hounds into the living room and found a scene of **pandemonium**. In the middle of the room was the cat, standing upright and lashing out with its razor sharp claws. A Labrador called Henry had one of the cat's legs in its vice like jaws. Meanwhile a poodle called Benny had hold of the cat's tail and was tugging for all he was worth. Trying to help, I grabbed a tennis racket and struck the monster a blow on the head with it.

If the cat had stood its ground it would probably have been too strong for us. But it was outnumbered and the dogs, **particularly** (*) Billy, all fought **bravely**. So, with a **terrifying** howl, the cat **leapt** across the room and through the front window with a **deafening** crash. We all ran to the front door just in time to see it jump over the hedge and into the road. Suddenly there was a screeching of brakes and then a crash. In the headlights we could see that the cat was dead- **pulverised** by a passing petrol tanker.

After that things slowly returned to normal. In fact, Mum Dad and Jade **recovered** quicker than I did. Maybe that is because they were **anesthetised** by the cat and can't remember. (*) But I can remember everything and often wonder where the cat came from. What would have happened if the cat had lived longer? What did Dad mean when he said 'it won't be long now'? I'd never **know** the answer to these questions. Maybe it was better that way...

Text reading

1 Roy (W7.05/F13.05/NF15.11)

2 Pete* (W11.03/F10.05/NF7.02)

3&4 Ned* (W11.03/F8.06/NF13.09)

Red: Error Blue: corrected error

A



B



Target word: Livid Selected: Upset

Roy (still standing) reads the target sentence – **I was livid and shot**... Ned helps him.. *Shouted*. Ned looks at the cards and then the text – **I was angry and shouted**. He then makes a joke suggestion – **I was killed and shouted**. He then adds several candidates, some more plausible than others – **I was upset and shouted; I was hit and shouted; I was mess and shouted** (laughs). Roy then says *I think it will be upset* and picks up this card. He sees the card **crushed** as he does this, and proposes this, laughing. Roy hands the card to Pete who places the card on the answer sheet. As Pete does this, Ned checks **confused** – **I was confused and shouted**. He then repeats Roy's proposal of **hit** – **I was hit and shouted**, looking at Roy and grinning (below). Ned tries **I was tricked and shouted**, but by now Roy has walked off.

**Target word: Pandemonium Selected: confusion**

By now Pete and Ned are working as a pair – Roy is off camera. Pete reads the target sentence and then proposes **fooled**, reaching across and pulling the card towards him. Ned, sorting out the cards, says *Shouldn't you read it all?* Pete ignores him, reprimanding Roy (off camera) – *You don't even know what you're doing*. Ned looks at the cards and proposes **confusion**, picking up the card and using a short phrase to check it – **a scene of confusion**. Pete doesn't look at Ned, the text or the card, but reaches across and places the card on the sheet (below).

**Target word: Pulverised Selected: run over**

Ned tries to read the target word – **pivoted**. Roy, off camera, suggest **perverted**. Ned laughs and looks across at Roy before turning his attention to the text. Pete does not laugh but concentrates on the text. He proposes **run over** and places this card on the answer sheet. Ned continues to try to read the target word. Pete impatiently slaps the table and shouts – *It's run over man!* (below).



Target word: *Anaesthetised* **Selected:** *hypnotised*

Ned (who is now working alone) focuses the task – *Right! Run over!* He looks at the text and the cards and says to himself – **tricked by the cat**. He then looks at the cards again – **they were crushed by the cat**. Pete distracts him by showing him some play dough – *Look! You get purple!* In the meantime Rob (Group D) can clearly be heard proposing **hypnotised**.

When Ned returns his attention to the task he appears disorientated, looking around the table – *Where's number three?* He sees that Roy is working on this and says – *Number four* – picking up this answer sheet. He spots **hypnotised** and gives a surprised *Huh?* He misreads the word as **hay-pno-tised**. Pete reads the word correctly, takes the card off Ned and places it on the answer sheet (below).



Roy has been working on his image for the first paragraph of the story whilst the other two boys were solving the target words. He opts to make another image for paragraph three and also helps Ned with his image for paragraph four. Roy tidies up the materials and also films and retells the story. It is only when he runs out of things to do that Ned is successful in enticing him into time wasting behaviour involving rolling up the play dough and throwing it at each other.

Ned- *Hypnotised...Someone with weird eyes, like wooooooh!* [Makes swirling motions with fingers (1)]

Roy- *Pass us some red Pete please.*

Ned- *Can someone draw a person for us?* [Roy takes his sheet and draws a figure for Ned (2)]

[Pete throws the red dough Ned asked for at him (3)]

Roy- *Shall I do a fat one or a thin one?*

[Roy finishes the drawing and passes it to Ned. Ned quickly adds some hypnotised eyes and then sits back announcing that he has finished (4). There then follows a period where Ned watches Pete and Roy working. When Roy finishes his image for paragraph three he tidies up the materials (5). Whilst Ned is doing this Ned rolls up some play dough and holds it to his nose. He looks up to see if Roy has noticed but Roy ignores him (6)]

The rest of this section of the video is taken up with Ned and Roy throwing play dough at each other whilst Pete works steadily on his picture. Pete occasionally complains to the others that they should stop misbehaving but they ignore him.

1



2



3



4



5



6



RETELL

1



(Roy does the retell)

This is the person who is upset and then he goes into the house and gets upset.

2



That's the confused face.

3



This is the cat when he got run over cos he jumped out the window.

4



This is the hypnotised person cos the cat hypnotised all of them.

Wk4 Day 4 Grp D

Book marks: Read and Solve (0.00-8.56):

Make (9.15-19.30): Retell (20.45-22.14)

READING

Jim's reading is again word by word and very fractured. He stops at * and the others tell him to read on and finish the paragraph, suggesting that Jim does not share their perception of how the text is structured. Ali gets impatient when Jim stops at *barking furiously* and reads it for him.

(Ali is slapped during the task activity that follows this)

Jim is still messing around with the cards. Ali says *Can you listen then?* Ali reads the first line in a comic voice and starts laughing. He then proceeds to read in an normal voice but very subdued. Rob tells him *pandemonium* and then shouts over Ali's reading, telling the others he knows what it means. Ali ignores him and carries on. Jim tells Rob that they must wait for Ali to finish before discussing the meaning of *pandemonium*.

When John reads all the boys apart from Jim attend to the text (A). Ali leans away from Jim. Rob helps John with *outnumbered*. Rob then asks Jim to give him a sweet. As a result, Rob misses John's substitution of *practically* for *particularly* and the error goes uncorrected. Ali notices Jim passing Rob a sweet and also demands one. Jim passes him a sweet, Ali puts it in his mouth and then both look directly at the camera and laugh (B). By now John, who is not chewing, is nearing the end of his reading, which is slow and word by word using his finger to point. Rob has read ahead, laughs and tells the other boys that the cat is dead. The boys discuss this as John reads on.

When Rob gets to *anaesthetised* and is unable to read it, Ali says *'It doesn't really matter'* suggesting that, in his view, it is not necessary to read the target words, only guess their meaning.

The Improbable Cat (8)

As I ran out of the door I bumped into Mum and Dad. They had been shopping at the all night supermarket and were carrying bags full of cat food. I was **livid** and shouted at them to tell me **what** was going on.

* 'Don't shout so loud or you'll spoil everything' said Dad in a faraway voice. 'It won't be long now.'

Before I had time to ask him what he meant, Billy ran in the front door **barking furiously**. Following behind him were all the dogs who lived on our street.

This was the plan I had thought of at the farm. What better way to get rid of a cat than with the help of its old enemy, the dog? I chased after the pack of hounds into the living room and found a scene of **pandemonium**. In the middle of the room was the cat, standing upright and lashing out with its razor sharp claws. A **labrador** called Henry had one of the cat's legs in its vice like jaws. Meanwhile a poodle called Benny had hold of the cat's tail and was tugging for all he was worth. Trying to help, I grabbed a tennis racket and struck the monster a blow on the head with it.

If the cat had stood its ground it would probably have been too strong for us. But it was **outnumbered** and the dogs, **particularly** Billy, all fought bravely. So, with a terrifying howl, the cat leapt across the room and through the front window with a **deafening** crash. We all ran to the front door just in time to see it jump over the hedge and into the road. Suddenly there was a screeching of brakes and then a crash. In the headlights we could see that the cat was dead- **pulverised** by a passing petrol tanker.

After that things slowly returned to normal. In fact, Mum Dad and Jade recovered quicker than I did. Maybe that is because they were **anaesthetised** by the cat and can't remember. But I can remember everything and often wonder where the cat came from. What would **have** happened if the cat had lived longer? What did Dad mean when he said 'it won't be long now'? I'd never know the answer to these questions. Maybe it was better that way...

Text reading

1 Jim (W8.00/F7.07/NF9.05)

2 Ali (W11.00/F12.00/NF13.02)

3 John* (W10.00/F7.07/ NF7.02)

4 Rob* (W10.09/F/12.10/ NF16.00)

Red: Error Blue: corrected error

A



B



Target word: *Livid* **Selected:** *furious*

Rob proposes **furious**, putting his hand on this card. John agrees *Aye! Livid is the same as furious cos livid is where you are angry*. Rob confirms his selection by reading *I was furious*. Jim agrees *Aye. He was furious when he shouts*. Jim places the card on the sheet.

Ali is reading the target sentence to himself, then leans over to look at the cards and asks *What else could it be?* Rob offers **confused** and **upset**. Ali proposes **tired** and checks it *I was tired and shouted at them*. None of these cards are picked up. Rob checks *I was confused and shouted at them*. Jim agrees *It's confused cos he doesn't know what's happening*. Ali shouts *No! It's furious!* Jim says *No it's not* and replaces **furious** with **confusion**. Rob starts to warn Jim *Right! If you get it wrong...* Then he notices Jim has picked up the wrong card – he meant to pick up **confused**, not **confusion**. *That's confusion says Rob*. Ali says the same. At this point Jim slaps Ali hard on the cheek (below left). Ali says *What you doing man!* Jim points to him *That's a slap!* (below right).



Ali calls Jim a Dick and throws the card marked **furious** at him (below). At this time Teacher C can be heard reprimanding Jim. She does not approach the group, nor is Jim disciplined for his assault on Ali.



Whilst they argue, Rob replaces **confusion** with **confused**, putting confusion back with the other cards (below).



Jim sees him doing this and checks the card against the card Rob has placed on the sheet (below).



Ali calls the group back to order by reading the target sentence- **chased after the pack of hounds into the living room and found a scene of** John, pointing at his copy of the text, proposes **confusion**. Rob simultaneously proposes **fighting**. John changes his mind- *Fighting*. There is a pause as Ali and Jim check this. Jim says *Aye. Cos he's lashing out and fighting*. Ali proposes **threatened** but Rob negates this- *dogs cats and cats fight*. Jim passes Ali **fighting** and Ali places it on the sheet saying *Are you sure?* Rob replies *That's what pandemonium means, fighting*.

Target word: *Pulverised* **Selected:** *hit*

Ali proposes **threatened** and points to the card. Ali reads from the text - **threatened by a passing patrol tanker**. The correct selection of **crushed** relies on the group realising that a petrol tanker is a large vehicle. It is possible that the failure to identify the vehicle as heavy is caused by the misreading of **petrol tanker** as **patrol tanker**.

Ali changes his mind, picks up **hit** and shows it to John (below). *Do you think it's hit?* He then places it on the answer sheet.



Meanwhile Jim checks his copy of the text. Rob then proposes **killed**, pointing to this card. John agrees *Aye! Killed*. Jim then proposes **run over**, putting his finger on this card. Jim asks Ali to read the sentence again. Rob thumps his fist on the table. Ali reads- **we could see that the cat was dead- pulverised by a passing patrol tanker**. Ali proposes **hit, killed or run over**, collecting these three cards together (below).



John tries to start an election- *Who votes for killed?* Jim, instead, places all three cards on the sheet and says the group must decide later. The group then go on to solve **anaesthetised**. When the group return to this word, John starts his election again- *Who votes for hit?* Ali and Rob raise their hands (below).



Jim votes for **run over** and John votes for **killed**. Ali announces that **hit** won the election and places this on the answer sheet. Jim says *If it's run over right I'll slap all of you!* and points at them.

After this episode, Jim asks the researcher over to break the deadlock (below). The researcher tells them that they have missed a viable candidate. Jim proposes **crushed**, and at this point, Rob corrects Ali's misreading of petrol tanker- *Crushed! Crushed by the passing patrol.. petrol tanker*. Ali then says, gesturing to the departing researcher- *Put crushed. He's the expert, not me*.

Target word: *Anaesthetised* **Selected:** *hypnotised*

It is unlikely that this correct solution derived from a priori meaning as none in the group were able to read the target word correctly. It is likely that the selection drew on the supernatural theme of the narrative.

Organising the task

Further evidence that the change in the way the task is organised is increasing the engagement of all members of the group.

Ali - *Alright!* [Slaps the table (1)] *Get your drawings and start drawing!*

[Jim leaves to get the researcher]

Rob [To Ali] *What could I draw?* [Ali ignores him]

John [To Rob] *Someone hypnotised.*

Rob - *With wiggly eyes?* [He circles his fingers in front of his eyes - woohh!]

John - *Aye*

[Jim returns with the researcher]

Discussion with the researcher about 'pulverised'

This episode underlines the importance Jim attaches to the target words as a guide for interpreting the story. He seems to feel that these must be accurate before the group can proceed. The conversation with the researcher (2) shows the potential for the group to engage in reflective discussion about the text.

Researcher [To Jim] - *Why does crushed work better than run over or hit?*

Rob - *Cos you'd get crushed by a big petrol tank.*

Researcher - *Cos it's a big thing.*

Jim - *You could be run over as well.*

Researcher - *You could be run over by a moped or a skateboard but you wouldn't get pulverised.*

John - *Skateboard!* [Laughs]

Researcher - *Well you could get run over by a skateboard but it wouldn't do much damage would it?*

Ali - *It wouldn't be hit cos you wouldn't be dead.*

John - *You wouldn't die.*

Ali - *If it was hit it could be 10 miles an hour.*

John - *Shall I just draw a truck.*

Researcher - *That's up to you.*

Rob - *Do you like my hypnotised eyes?*

Researcher [Laughs] *Yeah! That's it!*

Ali [To researcher] *What can I do for number two?*

Jim - *What can I do for number one?*

Researcher [To Ali] *What is paragraph two about Ali?*

Ali [Looks at text] *Erm... There was a cat standing up and lashing out!*

Researcher - *Well that's probably the best one to draw. That's when they're having a fight.*

Ali - *So I'll draw the cat and the dog fighting?*

Jim - *Can you let me draw that?*

1



2



Jim and Rob's differing views on how paragraph four should be interpreted

Rob [Points to his sheet] *Can you draw me a dog... the cat?*
 Jim - *Why?*
 Rob - *Cos the cat hypnotises them*
 Jim - *Read the sentence. It doesn't say the cat hypnotised them cos the cat isn't there!* [Points at his copy of the text (3)]
 Rob - *It did hypnotise them!*
 Jim [Pushes text towards Rob] *Look man! Look! Read it! Read it!*
 [Rob takes text and reads it]
 Jim - *Exactly! Read it!*
 Rob [points to the text with a pencil as he reads (4)] *Maybe that's because they were hypnotised by the cat.*
 Jim - *Aye! Hypnotised! They're not getting hypnotise...*
 Ali - *I'm done.*
 Rob - *Aye! But they're coming out of it.*
 Jim - *Aye, exactly. They're coming out of it cos the cat isn't there.*

Jim assesses Ali's drawing

Jim [Looks at Ali's drawing, points and laughs (5)] *I told you you should have let me draw it!*
 Ali [Starts drawing again] *Not everyone's a good drawer.*
 Rob - *Not everyone's like you. Not everyone's a good drawer.*
 Jim - *What the hell. It's not transformers!* [Laughs]
 Rob - *I'm done!*
 Jim - *Why has it got a big spot on it?*

Researcher suggests a fifth picture

Researcher - *Where did the cat come from and what do you think it is?*
 [Jim grabs a sheet of paper and prepares to draw]
 Ali - *Draw yours first.*
 Rob - *Like a shape shifter!*
 Ali - *It came from the parents. It hypnotised the parents to get in it.*
 Jim - *No! Where did it come from?*
 Ali - *I forget.*
 Jim - *A different world? What should I draw for confused?*
 Ali [Puts hands up to signal he doesn't want anything to do with Jim's picture (6)] *I've done mine.*

[Jim looks at the text and then starts drawing]

3



4



5



6



RETELL

1



Jim

Number 1 is about when the boy sees his mum and his family come out of the car looking weird. Done!

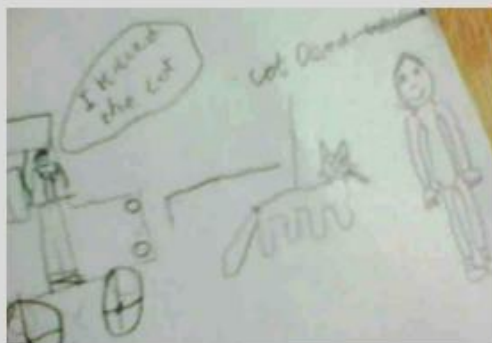
2



Ali

The second picture (.) which is mine is about the cat. They are fighting in the living room when the mam and dad comes back and they're fighting with razor sharp claws as you can see (1.0) and (.) um (.) that's it really. The dog doesn't like the cat. They broke the TV and they're both on the carpet. I divvent knaa what they're doing like

3



John

The cat was too strong for them at first and then they got some dogs to fight it and they came up with a terrifying howl but it didn't work, and then a petrol truck came along and then boom. It's a really rubbish petrol truck. And then the petrol truck crushed the cat. There's the person inside saying 'I killed the cat'.

4



Rob

This is the cat hypnotising the guy so they didn't know what's happened. Look at his eyes. Very cool.

Appendix E Synopses of dilemmatic episodes

Two dimensions of the groups' interactions were coded across multiple viewings as the video logs were developed. Each turn in an episode was coded according to its perceived **orientation-closed** (grey) and **red** (open). This is an attempt to identify instances of microgenetic change in coding orientation predicted by the domain theory.

Episodes taken as a whole were coded according to the group's **perception of the dilemmatic pedagogy** as compared with that intended by the teacher/designer. This allowed for principled selection of cases for analysis to determine how and why teacher and student perceptions may differ. Again, this is a key aspect of the students' interactions predicted by the domain theory.

E1 Coding of interaction

E1.1 Restricted orientation to meaning- concrete reference

Direct reference is made to **concrete artefacts** such as the text, the target words or the solution cards. These are coded in light grey in Appendix F.

Focusing (F)	Target word is located in the text and read aloud.
Self-correction (SC)	The group establish the correct reading of a target word as it appears in the text following an error.
Clarification (CL)	Word is read aloud in order ensure it has been correctly identified.
Search (S)	Reading from the text to locate relevant information.
List (L)	Definitions written on cards are read out in the form of a list.
Check (CH)	Reading aloud to test the correctness of a proposal by substituting it for the target word. Checks can serve as a proposal in their own right.
Check list (CT)	An individual inserts candidates into the text one after the other, reading out the results in the form of a list.
Confirmation (CN)	Reading aloud directly from the text to confirm the status of a proposal or a decision as correct.
Citation (CI)	Quoting a word or phrase from the text in support of a proposal

E 1.2 Restricted orientation- statements of fact

These are coded dark grey in Appendix F

Proposal (P)	A card is nominated for selection.
Blank proposal (BP)	A proposal that is made that is not followed by any further comment (e.g. there is no negation, justification or challenge). The proposal is not repeated later in the episode.
Repeat proposal (RP)	Reiteration of a proposal.
Counter proposal (CP)	Proposal made in rejection of a former proposal.
Quasi-proposal (QP)	A proposal is made that is not marked on any of the cards. Instead it is proposed as something that 'should' be on the cards.
Negation (N)	A proposal is invalidated.
Reject (R)	A proposal that is made once only and negated without reason. No attempt is made to justify or defend the proposal at the time or to reactivate it through repetition later in the episode.
Discounted (DS)	Rejection of an option that hasn't been proposed by anyone.
Selection (SE)	A proposal is asserted as the correct answer and is placed in the grid
A priori meaning (A)	A meaning that a student attaches to a word that derives from their prior experience rather than the text.

E 1.3 Elaborated orientation (coded red in Appendix F)

Elaborated orientation is marked by **contests** (challenges, justification, defence) or **splits** (split proposals or split selections).

Challenge (CG)	Request for a proposal to be justified
Justification (J)	Paraphrasing a section of the text in order to argue for the validity of a proposal or the negation of a proposal. This can be in anticipation or response to a challenge.
Defence (D)	Providing a counter argument when the legitimacy of one's proposal challenged.
Split proposal (SP)	Two or more competing cards are nominated simultaneously.
Split selection (SS)	Two or more competing solutions are placed on the grid

E 1.4 Minimising moves

These moves serve to curtail or 'outsource' the decision making process.

Overheard (O)	Use of information gained through eaves-dropping the talk of another group.
Appeal (AP)	An appeal for guidance from a teacher or a fellow student
Election (E)	The group vote on competing options rather than make a choice
Deferment (DF)	The group postpones a choice leaving two or more options as competing candidates.

E2 Coding of perception of task

E2.1 Episodes where students do not detect a dilemma

No Dilemma		Dilemmatic candidates	Screened candidates Rejects and blank proposals
Single candidate		Single incorrect candidate proposed. No blanks or rejects.	All other candidates
	*	Single correct candidate proposed. No blanks or rejects.	All other candidates
Potential dilemma		Incorrect candidate proposed. All other proposals are blanks or rejects.	All other candidates
	*	Correct candidate proposed. All other proposals are blanks or rejects.	All other candidates

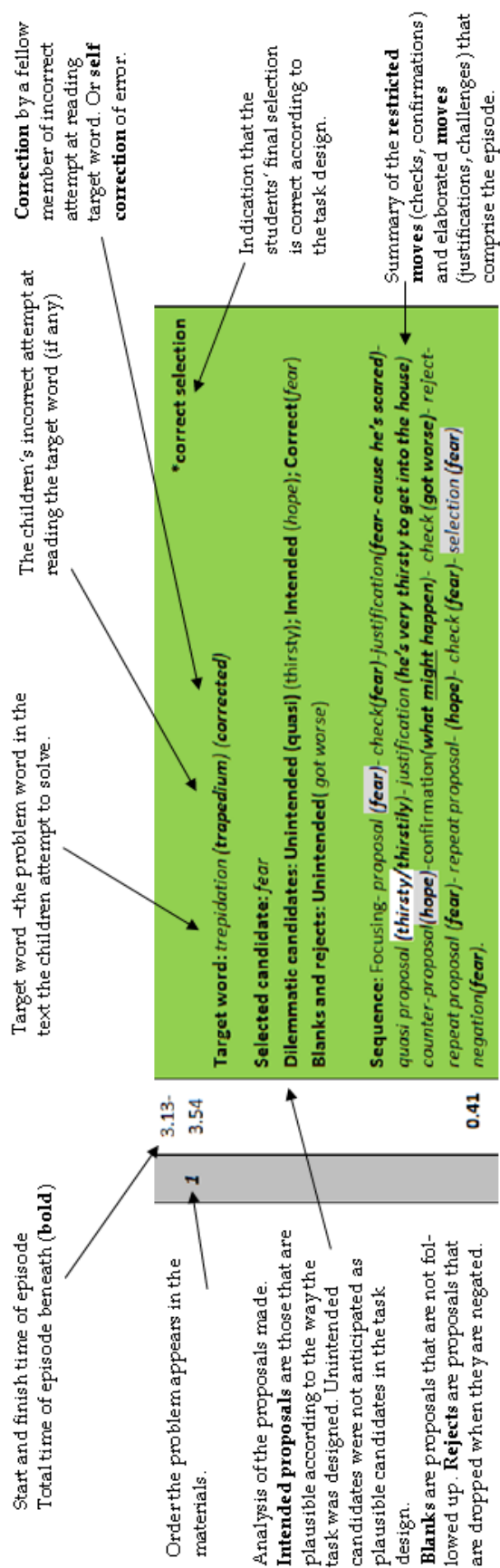
E2.2 Episodes where students perceive a dilemma that shares no elements with that intended by the designer

Management of students' dilemma		Dilemmatic candidates	Screened candidates Rejects and blank proposals
		All proposals are unintended candidates	Remaining unintended candidates. All intended candidates. Correct candidate.
		Both unintended and intended candidates but not the correct candidate	Remaining unintended and intended candidates. Correct candidate.
		Both unintended and correct candidates proposed. Unintended candidate selected.	Remaining unintended and all intended candidates.
	*	Both unintended and correct candidates proposed. Correct candidate selected.	Remaining unintended and all intended candidates.

E2.3 Episodes where students perceive a dilemma that shares elements with that intended by the designer

Management of teachers' dilemma		Dilemmatic candidates	Screened candidates Rejects and blank proposals
		Unintended, intended and correct candidates proposed. Incorrect candidate selected	Remaining unintended and intended candidates.
	*	Unintended, intended and correct candidates proposed. Correct candidate selected	Remaining unintended and intended candidates.
		Only intended candidates proposed	Remaining intended candidates. All unintended candidates. Correct candidate.
		Only intended and correct candidates proposed. Intended candidate selected.	Remaining intended and all unintended candidates.
	*	Only intended and correct candidates proposed. Correct candidate selected.	Remaining intended and all unintended candidates.

E3 Key to presentation of synopses of dilemmatic episodes



E4.1 Week 3 Day 1 Group A

230

E4.2 Week 3 Day 1 Group B

1	5:30 6:14 0:44	<p>Target word: evicted (evi-ceded) (corrected)</p> <p>Selected candidate: thrown out</p> <p>Dilemmatic candidates: Intended (thrown out)</p> <p>Blanks and rejects: Intended (taken away)</p> <p>Sequence: Clarification-search-proposal (thrown out)-split proposal (thrown out & taken away)-election-selection (thrown out)-search.</p>
2	6:18- 7:00 0:42	<p>Target word: enthusiastically (enthusiaticual) (corrected)</p> <p>Selected candidate: quickly</p> <p>Dilemmatic candidates: Intended (quickly)</p> <p>Blanks and rejects: None</p> <p>Sequence: Clarification-search-clarification-search-proposal (quickly)-election-selection (quickly)</p>
3	7:26- 8:01 0:35	<p>Target word: squall (squail) (squirrel)</p> <p>Selected candidate: storm</p> <p>Dilemmatic candidates: Intended (storm); Correct (wind)</p> <p>Blanks and rejects: Unintended (worried) Intended (car)</p> <p>Sequence: Search-list (car, worried, wind)-proposal (wind)-incomplete election-discounted (spoiling, blocking, happy, taken away, loudly, shut out, serious, soaking, storm)-repeat proposal (wind)-proposal (storm)-negation-counter proposal (wind)-incomplete justification-selection (storm)</p>
4	8:02- 8:30 0:28	<p>Target word: distorting (distorting; distirring) (corrected)</p> <p>Selected candidate: blocking</p> <p>Dilemmatic candidates: Intended (Blocking)</p> <p>Blanks and rejects: None</p> <p>Sequence: Search-clarification-a priori (blocking)-proposal (blocking)-appeal-selection (blocking)</p>
5	8:31- 8:58 0:27	<p>Target word: solemn</p> <p>Selected candidate: worried</p> <p>Dilemmatic candidates: Intended (worried)</p> <p>Blanks and rejects: None</p> <p>Sequence: Focusing-search-discounted (serious)-proposal (worried)-election-selection (worried)</p>

E4.3 Week 3 Day 1 Group C

1	6:29-6:36	<p>Target word: evicted</p> <p>Selected candidate: thrown out</p> <p>Dilemmatic candidates: Intended (thrown out)</p> <p>Blanks and rejects: None</p>
	0:07	Sequence: Focusing- a priori meaning (thrown out)- check- selection (thrown out)
2	6:37-7:15	<p>Target word: enthusiastically (unable to read) (correction)</p> <p>Selected candidate: serious</p> <p>Dilemmatic candidates: Unintended (Serious) Quasi proposal: (Wild, Wildly)</p> <p>Blanks and rejects: Intended (quickly)</p> <p>Phase 1 Sequence: Search- proposal (quickly)-negation- focusing- a priori meaning (wild)- quasi proposal (wildly)- check (wildly)-proposal (serious)- a priori meaning (serious is the same as wild)- selection (serious)- check (serious)- negation (we haven't got seriously)</p>
	0:38	
3	7:15-8:05	<p>Target word: squall (squirrel)</p> <p>Selected candidate: storm</p> <p>Dilemmatic candidates: Intended (storm, car) Unintended (happy, happily, loudly)</p> <p>Blanks and rejects</p> <p>Focusing- proposal (happy)- check- counter proposal (happily)- negation- justification (cos it wouldn't say a sudden happily)- search- proposal (loudly)- check-check - proposal (car)-check- repeat proposal (car)- check- proposal (storm)- selection (storm)- confirmation.</p>
	0:50	
4	8:06-8:31	<p>Target word: distorting (destroyed disjoined)(corrected)</p> <p>Selected candidate: blocking</p> <p>Dilemmatic candidates: Intended (blocking)</p> <p>Blanks and rejects: Unintended (worried)</p>
	0:25	Sequence: Recap- search- split proposal (blocking & worried)- selection (blocking) - confirmation (blocking)
5	8:32-8:45	<p>Target word: solemn</p> <p>Selected candidate: worried</p> <p>Dilemmatic candidates: Intended (happy, worried)</p> <p>Blanks and rejects: None</p>
	0:13	Sequence: Search-proposal (happy) -negation (happy)- proposal (happy)- counter proposal (worried)- selection (worried)

E4.4 Week 3 Day 1 Group D

1	3:32-4:35	<p>Target word: evicted</p> <p>Selected candidate: thrown out</p> <p>Dilemmatic candidates: Intended (thrown out)</p> <p>Blanks and rejects: None</p> <p>Sequence: Focusing -a priori meaning (thrown out)- selection (thrown out)- challenge-justification(thrown out)-a priori meaning (kicked out)- check (thrown out)- negation-repeat check (thrown out)- justification (cos they got evicted from the house and then they went to the park when they were moving out)</p>	1:03
2	4:35-5:27	<p>Target word: enthusiastically</p> <p>Selected candidate: happily</p> <p>Dilemmatic candidates: Unintended (happy); Correct(Happily))</p> <p>Blanks and rejects: Intended (quickly)</p> <p>Sequence: focusing (Where's the bold word?)- search-a priori meaning (happy)- selection (happy)- check (happy)- negation (happy)- repeat check (happy)- proposal (quickly) - reject -a priori meaning (happy)- negation (happy)- proposal (happily)- selection (happily)- confirmation (happily)</p>	0:52
3	5:28-6:42	<p>Target word: squall (squeal) (self corrected)</p> <p>Selected candidate: storm</p> <p>Dilemmatic candidates: Unintended (car) Intended (storm); Correct (wind)</p> <p>Blanks and rejects: None</p> <p>Sequence: Focusing- incomplete clarification- search- proposal (storm)- negation (storm)- counter proposal (car)- challenge- citation (towed/tore)-a priori meaning (cars get towed)- selection (car)- justification (car)- check (car) - repeat check-clarification (tore= towed)- check (storm)- justification (because it's chucking it)-negation (car)- proposal (wind)- confirmation (wind) - repeat proposal (storm) -negation- repeat proposal (storm)- selection (storm)</p>	1:14
4	6:46-7:30	<p>Target word: distorting (disorted)</p> <p>Selected candidate: blocking</p> <p>Dilemmatic candidates: Intended (blocking, soaking); Correct(spoiling)</p> <p>Blanks and rejects: None</p> <p>Phase 1 Sequence: search -incomplete clarification (disorted/ distorted)- quasi proposal (soaked)- proposal (soaking)- check (soaking)- negation- proposal (spoiling)- counter proposal (blocking) - confirmation (spoiling) - confirmation (blocking) - justification (If it's blocked you can't see) - split selection (blocking spoiling)</p>	8:25
	0:45	<p>Phase 2 sequence Whilst group discusses the next word a group member unilaterally rejects ' spoiling' and discards this card, thus choosing to select blocking. The other members of the group do not appear to notice or acknowledge this decision.</p>	
5	7:31-8:31	<p>Target word: solemn (solomen, solemen)</p> <p>Selected candidate: worried</p> <p>Dilemmatic candidates: Intended (worried); Correct (serious)</p> <p>Blanks and rejects: Unintended (car)</p> <p>Sequence: Search-incomplete clarification- proposal (worried)- challenge-split proposal (serious and worried)- blank proposal (car)- search (tare/tear)- proposal (serious)- confirmation (serious)- self correction (tare/tear)- negation (serious) - counter proposal (worried)- justification (you cry when you are worried) - citation (tear stained)- negation (It doesn't mean you're crying) - selection (worried)</p>	1:00

E4.5 Week 3 Day 2 Group A

1	2:22-2:51	<p>Target word: subtle (sub-tle; substance)</p> <p>Selected candidate: quickly</p> <p>Dilemmatic candidates: Unintended (quickly)</p> <p>Blanks and rejects: None (loudly is proposed as a solution for like a ton of bricks)</p> <p>Sequence: focusing- a priori meaning (big)- search (substance/subtle)- proposal (quickly)- confirmation (quickly)- proposal (loudly- this relates to ton of bricks)- negation-confirmation (quickly)- negation-confirmation- (loudly)- selection (quickly)</p>
	0:29	
3	2:52-3:09	<p>Target word: particular about things</p> <p>Selected candidate: organised</p> <p>Dilemmatic candidates: Intended (organised)</p> <p>Blanks and rejects: None</p> <p>Sequence: Proposal (organised)- search-proposal (organised)- repeat proposal (organised)- selection (organised)</p>
	0:17	
4		<p style="text-align: right;">*correct selection</p> <p>Target word: Like a ton of bricks</p> <p>Selected candidate: loudly</p> <p>Dilemmatic candidates: Correct (Loudly)</p> <p>Blanks and rejects: None</p> <p>2:43-2:51 Phase 1 sequence: proposal (loudly)- justification (If you come down stairs thud thud thud) (This proposal is made when the group are busy solving subtle and so is suspended)</p> <p>3:08-3:10 Phase 2 Sequence: repeat proposal (loudly)- deferment (No selection is made at this stage. Group go on to solve 'pristine').</p> <p>3:29-3:34 Phase 3 sequence: Focusing- search- s selection (loudly)</p>
	0:15	
2	3:12-3:28	<p style="text-align: right;">*correct selection</p> <p>Target word: pristine (pris-tyne)</p> <p>Selected candidate: clean</p> <p>Dilemmatic candidates: Correct (clean)</p> <p>Blanks and rejects: Intended (white)</p> <p>Sequence: Check (white)- focusing-split proposal (or clean)- proposal (clean)- selection (clean)</p>
	0:16	
5	3:35-3:52	<p style="text-align: right;">*correct selection</p> <p>Target word: Obsessively (obviously) (corrected)</p> <p>Selected candidate: constantly</p> <p>Dilemmatic candidates: Correct (constantly)</p> <p>Blanks and rejects: None</p> <p>Sequence: Focusing- a priori meaning-proposal (like he's obsessed with it)- proposal (constantly)- incomplete justification (like you get obsessively....)- selection (constantly).</p>
	0:17	

E4.6 Week 3 Day 2 Group B

1	3:10-4:21	<p>Target word: subtle (sub-tle)</p> <p>Selected candidate: obvious</p> <p>Dilemmatic candidates: Intended (obvious); Unintended (organised, constantly)</p> <p>Blanks and rejects: None</p> <p>Sequence: clarification-search-list (all the cards are read)-search-proposal (obvious)-incomplete check(obvious/obvious)-counter proposal (organised)-check (organised)-negation-discounted (good)-proposal (consciously/constantly)-check (constantly)-negation-proposal (obvious)-election-selection (obvious)</p>
2	4:28-5:06	<p>Target word: pristine (pris-tyne; pristane)</p> <p>Selected candidate: white</p> <p>Dilemmatic candidates: Intended (white); Correct (clean)</p> <p>Blanks and rejects: None</p> <p>Sequence: search-incomplete clarification - proposal (clean)-counter proposal (white)-confirmation (white) repeat proposal (white)-split proposal (or clean)-justification (shirt collars are white..clean)-repeat proposal (white)-check (clean)-repeat proposal (white)-check (white)-selection (white)-justification (trousers were always ironed)</p>
3	5:07-5:28	<p>Target word: particular about things</p> <p>Selected candidate: organised</p> <p>Dilemmatic candidates: Intended (organised)</p> <p>Blanks and rejects: None</p> <p>Sequence: focusing-search- proposal (organised)- selection (organised)- confirmation</p>
4	5:29-6:03	<p style="text-align: right;">*correct selection</p> <p>Target word: Like a ton of bricks</p> <p>Selected candidate: loudly</p> <p>Dilemmatic candidates: Correct (Loudly)</p> <p>Blanks and rejects: None</p> <p>Sequence: Proposal (loudly)- a priori meaning-check (loudly)-check (loudly)-list (loudly, quickly, good, happily)- challenge (Is there anything else)-a priori meaning (very loud)- selection (loudly)</p>
5	6:05-6:38	<p style="text-align: right;">*correct selection</p> <p>Target word: Obsessively</p> <p>Selected candidate: constantly</p> <p>Dilemmatic candidates: Correct (constantly)</p> <p>Blanks and rejects: None</p> <p>Sequence: Focusing- proposal (constantly)- search (obviously/obsessively)- proposal (constantly)- check (constantly)- selection (constantly)</p>

E4.7 Week 3 Day 2 Group C

5		<p style="text-align: right;">* correct selection</p> <p>Target word: Obsessively (Obviously)</p> <p>Selected candidate: Constantly</p> <p>Dilemmatic candidates: Correct (constantly)</p> <p>Blanks and rejects: None</p> <p>Phase 1 Sequence: Quasi proposal (constant)- check (constantly)- selection (constantly) - deferment</p> <p>Phase 2 Sequence: check (constantly fuses/fusses)</p>
1	<p>3.46-4.09</p> <p>4.39-0.24</p>	<p>Target word: subtle (suitable)</p> <p>Selected candidate: obvious</p> <p>Dilemmatic candidates: Intended (Obvious);</p> <p>Blanks and rejects: Unintended (constantly, different, quickly)</p> <p>Phase 1 Sequence: Focusing- incomplete clarification- proposal (constantly)- negation- blank proposal (different)- blank proposal (quickly)- deferment</p> <p style="text-align: center;">(Group shift focus to ton of bricks, see below)</p> <p>Phase 2 Sequence: proposal (obvious)- check (obvious)- selection (obvious)</p>
4	<p>4.34-5.59</p> <p>1.25</p>	<p style="text-align: right;">*correct selection</p> <p>Target word: Like a ton of bricks</p> <p>Selected candidate: Loudly</p> <p>Dilemmatic candidates: Unintended quasi proposal (heavily); Correct (loudly)</p> <p>Blanks and rejects: None</p> <p>Sequence: proposal (loudly)- selection (loudly)- quasi proposal (heavily)- negation (heavily)- repeat proposal (heavily)- negation- a priori meaning (a ton of bricks is dead loud)-list (all the cards are read out)</p>
3	<p>6.00-6.21</p> <p>0.21</p>	<p>Target word: particular about things</p> <p>Selected candidate: organised</p> <p>Dilemmatic candidates: Intended (organised)</p> <p>Blanks and rejects: Quasi proposal (forgetful)</p> <p>Sequence: Focusing- search- quasi proposal (forgotful/forgetful)- proposal (organised)- justification (because she's always organised) - selection (organised)</p>
2	<p>6.22-7.07</p> <p>0.45</p>	<p>Target word: pristine (pris-tyne; po-tis)</p> <p>Selected candidate: white</p> <p>Dilemmatic candidates: Intended (white)</p> <p>Blanks and rejects: Unintended quasi (obviously); Unintended (Obvious); Correct (clean)</p> <p>Sequence: Incomplete clarification- quasi proposal (obviously)- search- proposal (white)- counter proposal (clean)- check (clean)- reject- blank proposal (obvious)- proposal (white)- confirmation- (white)- selection (white).</p>

E4.8 Week 3 Day 2 Group D

1	0:39-2:08	<p>Target word: subtle (sub-tile) (corrected)</p> <p>Selected candidate: obvious</p> <p>Dilemmatic candidates: Unintended (organised, forgetful, constantly, quickly);</p> <p>Intended (Obvious)</p> <p>Blanks and rejects: None</p> <p>Sequence: Focusing- search- proposal (organised)- challenge- incomplete a priori meaning (sub-tile)- self correction (subtle)- incomplete a priori meaning (subtle)-check (forgetful)- negation- proposal (constantly)- negation- counter proposal (quickly)- check-(constantly)- negation- repeat proposal (constantly)- negation- defence (never agree with what I say)- check (constantly)- negation- defence (What else could it be?)- counter proposal (organised)- check (organised)- negation- check (forgetful)- negation- check (obvious)- confirmation-(obvious)- selection (obvious)- counter proposal (constantly)</p> <p>(Reread of disputed section and completion of paragraph)</p>
2	2:32-2:34 2:40-2:54 0:16	<p>Target word: pristine (pris-tyne)</p> <p>Selected candidate: organised</p> <p>Dilemmatic candidates: Unintended (organised)</p> <p>Blanks and rejects: None</p> <p>Phase 1 Sequence: proposal (interrupts reading) (organised)</p> <p>(The reader completes reading the paragraph)</p> <p>Phase 2 sequence: Interrupts reading: Confirmation (organised)- selection (organised)</p>
3	3:34-4:32 0:58	<p>Target word: particular about things</p> <p>Selected candidate: forgetful</p> <p>Dilemmatic candidates: Intended (forgetful, organised)</p> <p>Blanks and rejects: Unintended (Constantly, lovingly, obvious)</p> <p>Sequence: focusing(interrupts reading)- incomplete a priori meaning- proposal (forgetful)- negation- repeat proposal (forgetful)- a priori meaning (organised)- proposal (organised)- negation ('organised' was used for the previous part of the task)- defence (that answer might not be organised)- incomplete justification (that means she does things)- repeat proposal (forgetful)- counter proposal (constantly)- confirmation (forgetful)- selection (forgetful)- negation (constantly)- check (organised)- proposal (obvious)- negation- blank proposal (lovingly)</p> <p>(Read to complete paragraph following disputed section)</p>
4	4:53-5:57 1:04	<p>*correct selection</p> <p>Target word: Like a ton of bricks</p> <p>Selected candidate: loudly</p> <p>Dilemmatic candidates: Unintended (small); Intended (quickly); Correct (loudly)</p> <p>Blanks and rejects: Unintended (happily, lovingly)</p> <p>Sequence: selection (loudly)- a priori meaning (loud)- negation- justification (comes down the stairs like a ton of bricks)- negation- defence- check (like a loudly)- counter proposal (quickly) - negation (quickly)- confirmation (quickly)- proposal (happily)- negation- repeat proposal (quickly)- counter proposal (loudly)- blank proposal (lovingly)- repeat proposal (loudly)- counter proposal (small)- justification (bricks are small)- negation- confirmation (loudly).</p>
5	5:58-7:14 1:16	<p>*Correct selection</p> <p>Target word: Obsessively</p> <p>Selected candidate: constantly</p> <p>Dilemmatic candidates: Intended (happily); Correct (constantly)</p> <p>Blanks and rejects: None</p> <p>Sequence: Search- proposal (happily)- citation (fusses)- focusing- incomplete clarification (obsessively)- search- proposal (constantly)- confirmation (constantly)- selection (constantly)</p>

E4.9 Week 3 Day 3 Group A

1	1.57- 2.19	<p>Target word: <i>smartly</i></p> <p>Selected candidate: <i>silently</i></p> <p>Dilemmatic candidates: Intended (<i>cleverly, silently</i>)</p> <p>Blanks and rejects: None</p> <p>Sequence: <i>Focusing-proposal (cleverly)- challenge- check- counter proposal (silently)- selection (silently)</i></p>
	0.22	
2	2.21- 2.34	<p style="text-align: right;"><i>*correct selection</i></p> <p>Target word: <i>debris</i> (<i>day-briz, derbis</i>)</p> <p>Selected candidate: <i>Litter</i></p> <p>Dilemmatic candidates: Correct (<i>Litter</i>)</p> <p>Blanks and rejects: None</p> <p>Sequence: <i>Incomplete clarification- search- proposal (litter) check- selection (litter)</i></p>
	0.13	
3	2.35- 3.02	<p>Target word: <i>hopper full</i></p> <p>Selected candidate: <i>hand full</i></p> <p>Dilemmatic candidates: Intended (<i>hand full, truck full</i>)</p> <p>Blanks and rejects: Intended (<i>truck full</i>)</p> <p>Sequence: <i>Focusing- split proposal (hand full or truck full)- check (hand full)- selection (hand full)</i></p>
	0.27	
4	3.03- 3.17	<p style="text-align: right;"><i>*correct selection</i></p> <p>Target word: <i>stifling</i> (<i>stiffling</i>)</p> <p>Selected candidate: <i>hard to breathe</i></p> <p>Dilemmatic candidates: Correct (<i>hard to breathe</i>)</p> <p>Blanks and rejects: None</p> <p>Sequence: <i>Focusing- search- propose (hard to breathe)- selection (hard to breathe)- confirmation (It says his chest was tightening)</i></p>
	0.14	

E4.10 Week 3 Day 3 Group B

1	3.26-3.33 3.34-4.48 0.21	<p>Target word: <i>smartly</i></p> <p>Selected candidate: cleverly</p> <p>Dilemmatic candidates: Intended (Cleverly); Correct (Quickly)</p> <p>Blanks and rejects: None</p> <p>Phase 1 Sequence: <i>incomplete a priori meaning</i> (Teacher is asked about a blank card found in the materials)</p> <p>Phase 2 Sequence: <i>focusing- search- clarification (what does smartly mean?)- proposal (cleverly)- counter proposal (quickly)- split proposal (quickly & cleverly)- check (quickly)- check (cleverly)- repeat proposal (quickly)- repeat proposal (cleverly)- confirmation (quickly)- negation (quickly)- justification (If it was quickly it wouldn't be smartly)- appeal (Does everyone agree?)- selection (cleverly)</i></p>
2	4.54-5.18 0.24	<p>Target word: <i>debris</i></p> <p>Selected candidate: mess</p> <p>Dilemmatic candidates: Intended (mess); Correct (litter)</p> <p>Blanks and rejects: None</p> <p>Sequence: <i>search- proposal (litter)- split proposal (litter or mess)- citation (crisp packets)- check (mess)- proposal (mess)- appeal (Do you think it's mess?)- selection (mess)</i></p>
3	5.22-5.52 0.30	<p>Target word: <i>hopper full</i></p> <p>Selected candidate: handful</p> <p>Dilemmatic candidates: Intended (handful)</p> <p>Blanks and rejects: None</p> <p>Sequence: <i>focusing-search- quasi proposal (loads)- proposal (handful)- check (handful)- selection (handful)</i></p>
4	5.58-6.22 0.24	<p style="text-align: right;">*correct selection</p> <p>Target word: <i>stifling (stiff-ling)</i></p> <p>Selected candidate: hard to breathe</p> <p>Dilemmatic candidates: Correct (hard to breathe)</p> <p>Blanks and rejects: Intended (bad smelling);</p> <p>Sequence: <i>search- proposal (hard to breathe)- check (hard to breathe)- discounted (bad smelling) - justification (because his chest was tightening. If it was bad smelling his chest wouldn't tighten)- selection (hard to breathe)</i></p>

E4.11 Week 3 Day 3 Group C

1	3.36- 3.53	<p>Target word: <i>smartly</i></p> <p>Selected candidate: <i>cleverly</i></p> <p>Sequence: <i>Focusing- search-proposal (cleverly)- a priori meaning (it's similar to smart/it has the same ending)- selection (cleverly)</i></p> <p>0.17</p>
2	3.56- 4.10	<p style="text-align: right;"><i>*correct selection</i></p> <p>Target word: <i>débris (der-; derbis)</i></p> <p>Selected candidate: <i>litter</i></p> <p>Dilemmatic candidates: Correct (<i>litter</i>)</p> <p>Blanks and rejects: None</p> <p>0.14</p> <p>Sequence: <i>Focus- search- proposal (litter)- confirmation (litter)- selection (litter)</i></p>
3	4.25- 5.22	<p>Target word: <i>hopper full</i></p> <p>Selected candidate: <i>hand full</i></p> <p>Dilemmatic candidates: Intended (<i>sack full, hand full</i>); Correct (<i>truck full</i>)</p> <p>Blanks and rejects: None</p> <p>Sequence: <i>Focusing- proposal (sack full)- split proposal (hand full or truck full)- search- quasi proposal (mouthful)- split proposal (hand full/ stack (sack) full/ truck full)- negation (truck full)- proposal (hand full)- check (hand full)- selection (hand full)- deferment (we'll leave it for now)</i></p> <p>0.57</p>
4	5.29- 6.35	<p style="text-align: right;"><i>*correct selection</i></p> <p>Target word: <i>stifling (Still-f-ling; sit-fulling)</i></p> <p>Selected candidate: <i>hard to breathe</i></p> <p>Dilemmatic candidates: Intended (<i>bad smelling</i>); Correct (<i>hard to breathe</i>)</p> <p>Blanks and rejects: None</p> <p>Sequence: <i>incomplete clarification- search- proposal (bad smelling)- counter proposal (hard to breathe)- check (hard to breathe)- negation- proposal (bad smelling)- check (hard to breathe)- negation- check (hard to breathe)- repeat proposal (hard to breathe)- repeat proposal (bad smelling)- repeat proposal (bad smelling)- check (bad smelling)- negation- appeal- proposal (hard to breathe)- selection (hard to breathe).</i></p> <p>1.06</p>

E4.12 Week 3 Day 3 Group D

1	0.59-1.34	<p>Target word: <i>smartly</i></p> <p>Selected candidate: <i>cleverly</i></p> <p>Dilemmatic candidates: <i>Intended (cleverly; silently)</i></p> <p>Blanks & rejects: Correct (<i>quickly</i>)</p> <p>Sequence: <i>proposal (clever)- negation- repeat proposal- (cleverly)- check (cleverly)- split proposal (quickly or silently)- check (silently)- repeat proposal (cleverly)- selection (cleverly)</i></p>
2	2.14-2.51 8.31-9.31 1.37	<p>*Correct selection</p> <p>Target word: <i>débris (deb-riss)</i></p> <p>Selected candidate: <i>litter</i></p> <p>Dilemmatic candidates: <i>Intended (mess); Correct (litter)</i></p> <p>Blanks and rejects: Quasi proposal (messy)</p> <p>Phase 1 sequence: <i>proposal (litter)- justification (crisp packets)- repeat proposal (litter)- counter proposal (mess)- check (was covered in mess)- negation- repeat proposal (litter)- repeat proposal- justification (crisp packets and mouldy bowls)- counter proposal (mess)- confirmation (litter)- counter proposal (mess)- check (mess)- negation- repeat proposal (litter)- selection (litter)</i> (Students proceed to 'hopper full')</p> <p>Phase 2 sequence: <i>proposal (mess)- check (mess)- counter proposal (litter)- split proposal (litter or mess)- counter proposal (mess)- justification (cos litter's outside)- challenge (but crisp packets is litter)- counter proposal (but you have mess in your house)- citation (dirty bowls littered the floor)- quasi proposal (messy)- negation- check (messy the floor)- repeat proposal (mess not messy)- selection (litter)- justification (It's litter because they used litter twice).</i></p>
3	3.20-4.18 0.58	<p>Target word: <i>hopper full</i></p> <p>Selected candidate: <i>hand full</i></p> <p>Dilemmatic candidates: <i>Intended (hand full; sack full)</i></p> <p>Sequence: <i>clarification- proposal (hand full)- check (hand full)- counter proposal (sack full)- confirmation (hand full)- counter proposal (sack full)- negation (you don't get sack fulls of pills)- repeat proposal (the cat could eat a sack full of pills)- split proposal (hand full or sack full)- negation (he wouldn't eat a sack full)- justification (sack full- he could eat loads)- counter proposal (hand full is loads)- selection (hand full)</i></p>
4	4.32-5.25 7.26-7.28 7.48-8.30 1.37	<p>* correct solution</p> <p>Target word: <i>stifling (stiffing)</i></p> <p>Selected candidate: <i>hard to breathe</i></p> <p>Dilemmatic candidates: <i>Intended (warm); Correct (hard to breathe)</i></p> <p>Blanks and rejects: Unintended (<i>carpet; happy; calm</i>) Intended (<i>Bad smelling</i>)</p> <p>Phase 1 sequence <i>proposal (warm)- counter proposal (carpet)- negation- blank proposal (happy)- repeat proposal (warm)- quasi proposal (calm)- check (calm)- quasi proposal (worried)- justification (warm)- repeat proposal (warm)- discounted (it can't be calm because the cat made everyone feel..)- citation (I felt my chest tighten)- deferment</i> (The students decide defer read the whole text again from the beginning)</p> <p>Phase 2 sequence: <i>proposal (warm)-</i> (Student continues to read aloud)</p> <p>Phase 3 sequence: <i>challenge (that doesn't make sense)- counter proposal (hard to breathe)- confirmation- negation- check (warm)- citation (he said it was warm all of a sudden- it wouldn't be all of a sudden because it already is)- a priori meaning (If it's hard to breathe you'd go like that. Your chest)- blank proposal- (bad smelling)- check (hard to breathe)- selection (hard to breathe)</i> (Students return to 'débris')</p>

E4.13 Week 3 Day 4 Group A

2	3.09- 3.21	Target word: <i>shivering</i> Selected candidate: <i>cold</i> Dilemmatic candidates: Intended (<i>cold</i>) Blanks and rejects: None 0.12 Sequence: <i>proposal (cold) a priori meaning (because shivering means cold)-check-selection (cold)</i>
1	3.23- 3.40	<p style="text-align: right;">*correct selection</p> Target word: <i>malign (mali an)</i> Selected candidate: <i>evil</i> Dilemmatic candidates: Correct (<i>evil</i>) Blanks and rejects: Intended (<i>powerful</i>) 0.17 Sequence: <i>split proposal (evil or powerful)- check (evil)- selection (evil)</i>
3	3.40- 4.21	Target word: <i>distractedly</i> Selected candidate: <i>tiredly</i> Dilemmatic candidates: Intended (<i>tiredly</i>); Correct (<i>hazily</i>) Blanks and rejects: None 0.41 Sequence: <i>focusing- a priori meaning (like you got distracted)- incomplete a priori meaning- proposal (hazily)- challenge- a priori meaning (distracted means you're not concentrating on what you're doing)- discounted (powerful, small)-repeat proposal (hazily)- a priori meaning (I don't know what that means)- search- selection (tiredly)</i>
4	4.23- 4.33	<p style="text-align: right;">*correct selection</p> Target word: <i>defenceless</i> Selected candidate: <i>harmless</i> 0.10 Sequence: <i>focusing- incomplete a priori meaning- proposal (harmless)- selection (harmless)</i>

E4.14 Week 3 Day 4 Group B

1	3.19-5.07	<p style="text-align: right;">*correct selection</p> <p>Target word: <i>malign</i> (<i>malgen/malnersig/margin</i>)</p> <p>Selected candidate: <i>evil</i></p> <p>Dilemmatic candidates: Intended (<i>magic</i>); Correct (<i>evil</i>)</p> <p>Blanks and rejects: None</p> <p>Sequence: <i>Incomplete clarification-search-list (kindly, dangerous, harmless, small, dangerous, tiredly, hazily) - proposal (magic)- proposal (evil)- repeat proposal (evil)- split proposal (evil and magic)- justification-(cos the cat's evil)- negation (we don't know that yet)- check (magic)- check (evil)- repeat check (evil)- split proposal (magic and evil)- check (evil and magic)- repeat proposal (evil)-repeat justification (cos the cat's evil)- repeat negation (we don't know that yet)-appeal- selection (evil)</i></p> <p style="text-align: right;">1.48</p>
2	5.09-6.44	<p style="text-align: right;">*correct selection</p> <p>Target word: <i>shivering</i></p> <p>Selected candidate: <i>shocked</i></p> <p>Dilemmatic candidates: Intended (<i>cold, nervous</i>); Correct (<i>shocked</i>)</p> <p>Blanks and rejects: None</p> <p>Sequence: <i>Search- a priori meaning (cold)-negation (there is no cold)- proposal (cold)- challenge (there might be something else)- counter proposal (nervous)- negation- a priori meaning (cold=shivering. Because when you're cold you (mimics shivering))- defence (you shiver when you're nervous)- search- check (nervous)- check (cold)- citation (summer sun)- defence (I'm cold when it's summer)- search- split proposal (nervous, shocked, cold)- proposal (shocked)- negation (take cold out)- repeat proposal (shocked)- justification (cos he had seen what had happened)- appeal- check- selection (shocked)</i></p> <p style="text-align: right;">1.35</p>
3	6.51-7.14	<p>Target word: <i>distractedly</i> (<i>districtedly</i>)</p> <p>Selected candidate: <i>tiredly</i></p> <p>Dilemmatic candidates: Intended (<i>tiredly</i>)</p> <p>Blanks and rejects: None</p> <p style="text-align: right;">0.23</p> <p>Sequence: <i>Search-proposal (tiredly)- check- appeal- selection (tiredly)</i></p>
4	7.15-7.46	<p style="text-align: right;">*correct selection</p> <p>Target word: <i>defenceless</i></p> <p>Selected candidate: <i>harmless</i></p> <p>Dilemmatic candidates: Correct (<i>harmless</i>)</p> <p>Blanks and rejects: None</p> <p style="text-align: right;">0.31</p> <p>Sequence: <i>Search- proposal (harmless)- check- repeat proposal (interrupts check) (harmless)- a priori meaning (defenceless means harmless)- selection (harmless)</i></p>

E4.15 Week 3 Day 4 Group C

1	0.34-1.09	Target word: <i>malign (mal-igin)</i> Selected candidate: <i>magic</i> Dilemmatic candidates: Intended (<i>magic</i>) Blanks and rejects: None Sequence: <i>Incomplete clarification- list- proposal (magic)- check- selection (magic)</i>
2	1.04-1.15 2.02-2.15 0.24	<p style="text-align: right;"><i>*correct selection</i></p> Target word: <i>shivering</i> Selected candidate: <i>shocked</i> Dilemmatic candidates: Intended (<i>cold</i>); Correct (<i>shocked</i>) Blanks and rejects: Intended (<i>nervous</i>) Phase 1 synopsis: <i>Focusing- selection (cold)</i> (The reader continues reading the text after malign is solved) Phase 2 synopsis: <i>proposal (shocked)- blank proposal (nervous)- selection (shocked)-check (shocked)</i>
3	4.20-4.49	Target word: <i>distractedly</i> Selected candidate: <i>kindly</i> Dilemmatic candidates: Intended (<i>kindly</i>) Blanks and rejects: None Sequence: <i>Focussing- list (harmless, powerful- proposal (kindly)- repeat proposal (kindly)- check- selection (kindly)</i>
4	7.19-7.24 0.05	<p style="text-align: right;"><i>*correct selection</i></p> Target word: <i>defenceless</i> Selected candidate: <i>harmless</i> Dilemmatic candidates: Correct (<i>harmless</i>) Blanks and rejects: None Sequence: <i>selection (harmless)- a priori meaning (harmless)</i>

E4.16 Week 3 Day 4 Group D

1	0.57-1.26 1.55-2.38 1.12	<p>Target word: <i>malign</i> (<i>milligen</i> it's a made up word)</p> <p>Selected candidate: <i>magic</i></p> <p>Dilemmatic candidates: Intended (<i>powerful, magic</i>); Correct (<i>evil</i>)</p> <p>Blanks and rejects: Quasi proposal (<i>command</i>)</p> <p>Phase 1 sequence: <i>Incomplete clarification- search- proposal (magic)</i></p> <p>(The reader is told to complete reading the paragraph before the problem word is solved)</p> <p>Phase 2 Sequence: <i>Incomplete clarification (what's the word then?)- search- quasi proposal (command)- citation (spell)- counter proposal (magic)- confirmation (magic)- check (magic)- counter proposal (powerful)- split proposal (magic, powerful, evil)- repeat proposal (evil)- justification (if you touch it you will go under its...)- repeat proposal (magic)- selection (magic).</i></p>
2	3.12-3.43 0.31	<p>Target word: <i>shivering</i></p> <p>Selected candidate: <i>cold</i></p> <p>Dilemmatic candidates: Intended (<i>cold</i>)</p> <p>Blanks and rejects: Correct (<i>shocked</i>)</p> <p>Sequence: <i>a priori meaning (cold)- check- selection (cold)- appeal (isn't it cold?)- repeat a priori meaning (shivering means cold)- confirmation (cold)- counter proposal (shocked)- negation- a priori meaning (shivering means cold)</i></p>
3	4.21-7.19 2.58	<p>Target word: <i>distractedly</i> (<i>dis-tract-ed-ly</i>) (<i>corrected</i>)</p> <p>Selected candidate: <i>tiredly</i></p> <p>Dilemmatic candidates: Intended (<i>tiredly, kindly</i>); Correct (<i>hazily</i>)</p> <p>Blanks and rejects: None</p> <p>Sequence: <i>incomplete clarification- clarification (what does it mean?) a priori meaning (if I'm doing my work and you talk to me, you are distracting me)- proposal (tiredly)- negation- a priori meaning (that means you're annoying me)- list (What's another word for annoying?)- search- proposal (hazily)- incomplete clarification (what does hazily mean?)- proposal (kindly)- repeat proposal (kindly)- repeat proposal (kindly)- selection (hazily)- repeat proposal (kindly)- repeat proposal (hazily)- challenge (you can't just put it (hazily) on the sheet)- check (hazily)- counter proposal (kindly)- challenge (read it first)- check (hazily)- repeat proposal (hazily)- clarification (what does hazily mean?)- clarification (what does distractedly mean?)- search- repeat proposal (tiredly)- confirmation (tiredly)- justification (If she said morning Andy, she got up before he got up)- challenge (Does it make sense in the sentence though?)- selection (tiredly)- check (lazily/hazily)- justification (she's tired because she's been carrying the heavy bags- (morning is like 9 o'clock so she probably got up 7, 8)</i></p>
4	8.05-8.26 0.21	<p style="text-align: right;"><i>*correct selection</i></p> <p>Target word: <i>defenceless</i></p> <p>Selected candidate: <i>harmless</i></p> <p>Dilemmatic candidates: Correct (<i>Harmless</i>)</p> <p>Blanks and rejects: None</p> <p>Sequence: <i>A priori meaning (harmless)-selection (harmless)- check (harmless)</i></p>

E4.17 Week 4 Day 1 Group A

2	2.26- 2.35	<p style="text-align: right;">*correct selection</p> <p>Target word: sinister</p> <p>Selected candidate: suspicious</p> <p>Dilemmatic candidates: Correct(suspicious)</p> <p>Blanks and rejects: None</p> <p>0.09</p> <p>Sequence: proposal (suspicious)- confirmation- selection (suspicious)</p>
3	2.36- 2.55	<p style="text-align: right;">*correct selection</p> <p>Target word: canned</p> <p>Selected candidate: fake</p> <p>Dilemmatic candidates: Correct(fake)</p> <p>Blanks and rejects: None</p> <p>0.19</p> <p>Sequence: proposal (fake)- confirmation- (repeated twice by different members)- selection (fake)</p>
4	2.56- 3.07	<p style="text-align: right;">*correct selection</p> <p>Target word: gathering</p> <p>Selected candidate: growing</p> <p>Dilemmatic candidates: Correct(growing)</p> <p>Blanks and rejects: None</p> <p>0.11</p> <p>Sequence: attempted a priori meaning- proposal (growing)- confirmation (growing)- selection (growing)</p>
1	3.08- 3.53	<p>Target word: pessimistic</p> <p>Selected candidate: not sure</p> <p>Dilemmatic candidates: Intended (not sure)</p> <p>Blanks and rejects: Unintended (dangerous; happy)</p> <p>0.45</p> <p>Sequence: focusing- search- blank check (dangerous)- blank check (happy)- proposal (not sure)- confirmation (not sure)- repeat proposal (not sure)- selection (not sure)</p>

E4.18 Week 4 Day 1 Group B

1	3.35-4.19	<p>Target word: pessimistic</p> <p>Selected candidate: not bothered</p> <p>Dilemmatic candidates: Intended (not sure, not bothered);</p> <p>Blanks and rejects: Intended (not happy)</p> <p>Sequence: search- focusing (pessimistic is read correctly)- check (not bothered)- proposal (not bothered)- proposal (not happy)- negation- repeat proposal (not bothered)- check (not sure)- split proposal (not bothered/ not sure)- appeal -repeat proposal (not bothered)- selection (not bothered)</p>
	0.44	
2	4.20-4.31	<p style="text-align: right;">*correct selection</p> <p>Target word: sinister</p> <p>Selected candidate: suspicious</p> <p>Dilemmatic candidates: Correct (suspicious)</p> <p>Blanks and rejects: None</p> <p>Sequence: A priori meaning (suspicious)- confirmation - selection (suspicious)</p>
3		<p>Target word: canned</p> <p>Selected candidate: loud</p> <p>Dilemmatic candidates: Unintended (growing, shrinking); Intended (loud); Correct (fake)</p> <p>Blanks and rejects: Unintended (bad, dangerous, spooky, dark, unlucky, not sure)</p> <p>Intended (silly; happy)</p> <p>4.32-6.12 Phase 1 Sequence: focusing- search- proposal (spooky)- counter proposal (loud)- blank proposal (silly)- proposal (happy)- negation- proposal (fake)- check (spooky)- check (spooky)- negation- repeat proposal (fake)- repeat proposal (loud)- check (loud)- check (shrinking)- check (shrinking)- deferment</p> <p style="text-align: center;">(The group go on to attempt the next word- gathering)</p> <p>7.35-8.36 Phase 2 Sequence: search-blank proposal (not sure)- check list (bad, happy, dangerous, spooky, dark, growling/growing, unlucky)- search-split proposal (growing or shrinking)- negation (shrinking has already been allocated)- repeat proposal (loud)- selection (loud)</p>
	2.42	
4	6.14-7.34	<p>Target word: gathering</p> <p>Selected candidate: shrinking</p> <p>Dilemmatic candidates: Intended (Shrinking)</p> <p>Blanks and rejects: Unintended (dangerous)</p> <p>Sequence: Search- clarification- (what does gather mean; like gathering around the cat- around things)- negation(there's only him there)-search- proposal (shrinking)- check (shrinking)- check (shrinking)- check (shrinking)- check (dangerous)- negation- repeat proposal (shrinking)- appeal- repeat proposal (shrinking) - selection (shrinking)</p>
	1.20	

E4.19 Week 4 Day 1 Group C

1	0.30-1.24	<p>Target word: pessimistic (pesamisticitic) (self corrected)</p> <p>Selected candidate: not bothered</p> <p>Dilemmatic candidates: Intended (not bothered)</p> <p>Blanks and rejects: Unintended (fake, happy) Intended (not sure; not happy)</p> <p>Sequence: clarification-search-proposal (fake)-negation-blank proposal (happy)-proposal (not bothered)-check (not bothered)-proposal (not sure)-negation-blank proposal (not happy)-check (not bothered)-selection (not bothered)</p>
	0.54	
2	2.58-3.54	<p>Target word: sinister</p> <p>Selected candidate: bad</p> <p>Dilemmatic candidates: Unintended (happy; silly); Intended (bad; dangerous); Correct (suspicious)</p> <p>Blanks and rejects: Unintended (growing)</p> <p>Phase 1 Sequence: focus-proposal (happy)-search-proposal (silly)-proposal (dangerous)-check (dangerous)-proposal (bad)-check (bad)-check (dangerous)-blank proposal (growing)</p> <p>(Students start playing with play dough)</p>
	4.24-4.55	<p>Phase 2 sequence: focus-search-repeat proposal (bad)-repeat proposal (happy)-check (happy)-negation-overheard (suspicious)-check (suspicious)-split selection (suspicious and bad)-deferment</p> <p>(Students move on to next problem word)</p>
	5.48-6.25	<p>Phase 3 Sequence: focus-election-check (silly)-repeat proposal (silly)-negation-check (bad)-check (suspicious)-check (dangerous)-search-deferment (forget it)</p> <p>(Students start making storyboards)</p>
	8.45	
	2.05	<p>Phase 4 Sequence: selection (bad)</p>
3	5.16-5.45	<p>Target word: canned</p> <p>Selected candidate: loud</p> <p>Dilemmatic candidates: Intended (Loud)</p> <p>Blanks and rejects: None</p> <p>Sequence: Selection (loud)-search-confirmation (loud)</p>
	0.29	
4	7.02-8.40	<p>Target word: gathering</p> <p>Selected candidate: spooky</p> <p>Dilemmatic candidates: Unintended (dangerous) Intended (spooky)</p> <p>Blanks and rejects: Correct (growing)</p> <p>Phase 1 Sequence: clarification-search-proposal (growing)-negation-list-proposal (dangerous)-check (dangerous)-</p> <p>(Students work on storyboards)</p>
	9.15-9.21	<p>-selection (dangerous)</p>
	1.44	<p>Phase 2 sequence: negation (dangerous)-selection (spooky)</p>

E4.20 Week 4 Day 1 Group D

1	1.11-2.30	<p>Target word: pessimistic</p> <p>Selected candidate: not happy</p> <p>Dilemmatic candidates: Intended (not sure, not bothered, not happy)</p> <p>Blanks and rejects: None</p> <p>Sequence: check (not sure)- check (not happy)- proposal (not bothered)- check (not bothered)- proposal (not bothered)- repeat proposal (not happy)- proposal (not sure)- check (not sure)- split proposal (not sure and not happy)- repeat proposal (not happy)- appeal (do you?)- check (not happy)- repeat proposal (not bothered)- check (not bothered)- negation- justification (he is bothered because he wants to go)- check (not happy)- negation- justification (he's been allowed to go)- defence (he's not happy about the decision about being allowed to go)- repeat proposal (not happy)- appeal (are you happy with that?)- check (not happy)- selection (not happy)</p>
2	3.15-4.37	<p>*correct selection</p> <p>Target word: sinister</p> <p>Selected candidate: suspicious</p> <p>Dilemmatic candidates: Unintended (silly) Intended (bad, dangerous); Correct (suspicious)</p> <p>Blanks and rejects: Unintended (spooky, shrinking, happy)</p> <p>Sequence: Focusing- search- proposal (shrinking)- negation -blank proposal (spooky)- proposal (silly)- counter proposal (bad)- repeat proposal (silly)- repeat proposal (bad)- check (spooky)- blank proposal (happy)- check (silly)- negation (silly)- proposal (bad)- search- repeat proposal (bad)- proposal (suspicious)- check (dangerous)- proposal (suspicious)- check (suspicious)- repeat proposal (suspicious)- split proposal (dangerous or bad)- repeat proposal (suspicious)- check (dangerous)- repeat proposal (suspicious)- check (suspicious)- election- selection (suspicious)</p>
3	5.12-7.25	<p>Target word: canned</p> <p>Selected candidate: loud</p> <p>Dilemmatic candidates: Unintended (spooky) Intended (happy, silly, loud)</p> <p>Blanks and rejects: Unintended (dark); Correct (fake)</p> <p>Sequence: search- proposal (loud)- counter proposal (silly)- repeat proposal (loud) counter proposal (silly)- proposal (spooky)- proposal (dark)- negation- repeat proposal (spooky)- negation (spooky)- justification (it's about the cat)- split proposal (loud or happy)- search- repeat proposal (loud)- repeat proposal (spooky)- repeat proposal (silly) repeat proposal (spooky)- negation (spooky)- repeat proposal (loud)- confirmation (loud)- blank proposal (fake)- repeat proposal (spooky)- check (spooky)- repeat proposal (loud)- split proposal (loud or happy)- repeat proposal (happy)- counter proposal (loud)- counter proposal (happy)- counter proposal (loud)- justification (happy- because they're watching football)- negation (they're not watching football)- repeat proposal (happy)- split proposal (happy, loud)- repeat proposal (loud)- selection (loud)- deferment.</p>
4	8.54-12.14	<p>Target word: gathering</p> <p>Selected candidate: spooky</p> <p>Dilemmatic candidates: Intended (dark, spooky); Correct (growing)</p> <p>Blanks and rejects: None</p> <p>Sequence: clarification- search- proposal (dark)- proposal (spooky)- split proposal (dark or spooky)- quasi proposal (gathering)- self correction (growing)- repeat proposal (spooky)- confirmation- (spooky)- justification (spooky)- justification (growing shadows)- check (growing)- a priori definition (gathering means in a group)- repeat proposal (spooky)- repeat proposal (spooky)- check (spooky)- selection (spooky)- counter proposal (growing)- confirmation (growing)- check (growing)- justification (they get bigger and bigger)- a priori meaning (gathering means growing)- appeal (to teacher)</p>

E4.21 Week 4 Day 2 Group A

1	3.11-3.29 4.22-6.25 2.15	<p>Target word: conscience (con- science)</p> <p>Selected candidate: tent</p> <p>Dilemmatic candidates: Intended (tent, seatbelt)</p> <p>Blanks and rejects: None</p> <p>Phase 1 Sequence: Search- proposal (seatbelt) (Interruption by selection for Eureka and distraction, see below)</p> <p>Phase 2 Sequence: proposal (seatbelt)- checking (seatbelt)- focus – check (seatbelt)- focus-focus-focus – check (seatbelt)- repeat proposal (seatbelt)- repeat proposal (seatbelt)- select (seatbelt)- counter proposal (tent)- challenge (that one's not there)- defence – challenge (were they in the car though?)- search- defence (tent- they were on holiday)- citation (camp)- repeat proposal (tent)- split selection (tent & seatbelt)- repeat proposal (tent)- justification (they need a tent for the camp)- check (tent)- challenge (they are already off the coach- justification (Cos they're getting their computer games)- negation- citation (it says taking us further from our computer games)- repeat proposal (tent)- repeat proposal (tent)-repeat proposal (tent)- selection (tent)</p>
4	3.30-3.53 0.23	<p style="text-align: right;">*correct selection</p> <p>Target word: Eureka!</p> <p>Selected candidate: I've got it</p> <p>Dilemmatic candidates: Correct (I've got it!)</p> <p>Blanks and rejects: Intended (Ouch)</p> <p>Sequence: Proposal (Ouch!)- negation- a priori meaning (I've got it!)- selection (I've got it!)- a priori meaning. (Group turn to next target word- distraction, see below)</p>
3	4.00-4.21 4.42-4.49 7.14-7.15 7.26-7.35 0.38	<p style="text-align: right;">*correct selection</p> <p>Target word: distraction</p> <p>Selected candidate: escape</p> <p>Dilemmatic candidates: Correct (escape)</p> <p>Blanks and rejects: Unintended (unsuccessfully)</p> <p>Phase 1 Sequence: focusing – incomplete a priori meaning- blank proposal (unsuccessfully)-search- incomplete a priori meaning (Group go back to try to solve 'conscience', see above)</p> <p>Phase 2 Sequence: focusing- search (Interruption)</p> <p>Phase 3 Sequence: focusing (Interruption)</p> <p>Phase 4 Sequence: search- proposal (escape)- selection (escape)</p>
2	6.26-7.09 7.15-7.25 7.36-8.00 1.12	<p style="text-align: right;">*correct selection</p> <p>Target word: in vain</p> <p>Selected candidate: unsuccessfully</p> <p>Dilemmatic candidates: Correct (unsuccessfully) Unintended (distance)</p> <p>Blanks and rejects:</p> <p>Phase 1 Sequence: Search- proposal (unsuccessfully)- check (unsuccessfully)- justification (They tried to tire them out)- check (in vain) – negation (but in unsuccessfully)- a priori meaning (unsuccessfully)- selection (unsuccessfully) (There is an attempt to move the discussion onto distraction)</p> <p>Phase 2 Sequence: counter proposal (distance) (The group shift their attention to solving distraction (see above))</p> <p>Phase 3 Sequence: focusing- repeat proposal (unsuccessfully)-check (distance)- negation (distance)- negation (unsuccessfully)- defence (unsuccessfully)-challenge (what can I draw for that?)</p>

E4.22 Week 4 Day 2 Group B

1	4.04 4.48	<p>Target word: conscience</p> <p>Selected candidate: seat belt</p> <p>Dilemmatic candidates: Unintended (experience) Intended (seatbelt);</p> <p>Blanks and rejects: None</p> <p>Sequence: Focusing –focusing- search – search –search –search- proposal (experience)- counter proposal (seatbelt)- repeat proposal (seatbelt)- check (experience)- negation (experience)- check (seat belt)- appeal –appeal- selection (seatbelt).</p>
	0.44	
2	4.58- 6.30	<p style="text-align: right;">*correct selection</p> <p>Target word: in vain</p> <p>Selected candidate: unsuccessfully</p> <p>Dilemmatic candidates: Correct (unsuccessfully)</p> <p>Blanks and rejects: Intended (a long way)</p> <p>Sequence: focusing- search- clarification (what does in vain mean?)- proposal (a long way)- negation- search- appeal- proposal (unsuccessfully)- check (unsuccessfully)- appeal- selection (unsuccessfully)</p>
	1.32	
3	6.31- 7.00	<p style="text-align: right;">*correct selection</p> <p>Target word: distraction</p> <p>Selected candidate: escape</p> <p>Dilemmatic candidates: Correct (escape)</p> <p>Blanks and rejects: None</p> <p>Sequence: Search- proposal (escape)- check (escape)- appeal- selection (escape)</p>
	0.29	
4	7.03- 7.19	<p style="text-align: right;">*correct selection</p> <p>Target word: Eureka!</p> <p>Selected candidate: I've got it</p> <p>Dilemmatic candidates: Unintended() Intended(); Correct()</p> <p>Blanks and rejects: Unintended() Intended(); Correct()</p> <p>Sequence: Search- clarification - proposal (I've got it)- check (I've got it)- selection (I've got it)</p>
	0.16	

E4.23 Week 4 Day 2 Group C

1	2.02-3.42	<p>*correct selection</p> <p>Target word: conscience (constanance/constant)</p> <p>Selected candidate: guilt</p> <p>Dilemmatic candidates: Intended (seat belt; Correct (guilt)</p> <p>Blanks and rejects: Unintended (too late, Oh no!, journey ,unsuccessfully, a long way)</p> <p>Intended (tent, sadness)</p> <p>Sequence: Clarification (conscience) -focusing -clarification (conscience)- clarification (conscience) proposal (too late)- negation- proposal (oh no!)-negation- proposal (guilt)- proposal (journey)- negation-counter proposal (tent)- negation (tent)- proposal (seatbelt)- repeat proposal (seatbelt)- justification (mimes struggling with seatbelt)- check (seatbelt)- blank proposal (unsuccessfully)- proposal-negation- proposal (a long way)- search- negation- blank proposal (sadness)- proposal-repeat proposal (guilt)- a priori definition-a priori definition-a priori definition-selection (guilt)</p> <p>1.40</p>
2	5.28-6.31 6.40-7.51 2.14	<p>*correct selection</p> <p>Target word: in vain</p> <p>Selected candidate: unsuccessfully</p> <p>Dilemmatic candidates: Unintended (let's go, I've got it!); Correct (unsuccessfully)</p> <p>Blanks and rejects: Unintended (distance, experience, Ouch!, Oh no!); Intended (a long way)</p> <p>Phase 1 Sequence: Focusing- incomplete a priori definition - proposal (distance)- negation- citation (there's a full stop)- proposal (let's go)-search- repeat proposal (let's go)- search- repeat proposal (let's go)- search- proposal (unsuccessfully)- check (unsuccessfully)- proposal (experience)- negation-repeat proposal (lets go)- negation-blank proposal (ouch!) - blank proposal (oh no!)- proposal (lets go)- proposal (I've got it) -</p> <p>(Group pauses and has a short break)</p> <p>Phase 2 sequence: check (I've got it)- selection (I've got it!)- negation(but you've got what?)- blank proposal (a long way)- search- quasi proposal (it didn't work)- selection (unsuccessfully)- justification (because it doesn't work)</p> <p>2.14</p>
3	8.13-8.24 9.19-9.50 11.15 11.47 1.14	<p>*correct selection</p> <p>Target word: distraction</p> <p>Selected candidate: escape</p> <p>Dilemmatic candidates: Intended (distance); Correct (escape)</p> <p>Blanks and rejects: None</p> <p>Phase 1 sequence: focusing-a priori definition (distraction)</p> <p>(One of the group throw something at group D. Two of them then walk off)</p> <p>Phase 2 sequence: focusing- proposal (distance)- negation- proposal (escape)- selection (distance)- challenge-check (distance)- check (distance)</p> <p>(At this point Sam empties the play dough onto the table. Two of the group make pretend joints out of play-dough and pretend to smoke them)</p> <p>Phase 3 sequence: Focusing-incomplete a priori meaning-search-repeat proposal (escape)- confirmation (escape)- clarification-confirmation-selection (escape)</p>
4	11.14 11.51 12.06 0.16	<p>Target word: Eureka!</p> <p>Selected candidate: Ouch!</p> <p>Dilemmatic candidates: Intended (Ouch)</p> <p>Blanks and rejects: None</p> <p>Phase 1 sequence: clarification (e-wrecker/eureka)</p> <p>(Interrupted by attempt to solve previous word distraction)</p> <p>Phase 2 sequence: proposal (Ouch!)- clarification (equikiki/eureka)- selection (Ouch!)</p> <p>(A conversation about drug use takes place)</p>

E4.24 Week 4 Day 2 Group D

1	1.18-3.27	<p>Target word: conscience (con-sense)</p> <p>Selected candidate: sadness</p> <p>Dilemmatic candidates: Intended (tent, sadness)</p> <p>Blanks and rejects: Unintended (I've got it!, unsuccessfully); Intended (experience, seatbelt); Correct (guilt)</p> <p>Sequence: proposal (tent)- focus-search-focus -focus- proposal (sa dness)- search-repeat proposal (sa dness)- check (sa dness)- negation (sa dness)- counter proposal (tent)- negation (tent)- justification (If they're in the car)- check (tent)- challenge (where does it say he's in the car?)- check (tent)- defence (something that's heavy)- check (sa dness)- defence (Sadness makes more sense)- check (sa dness)- counter proposal (I've got it!)-negation-search- blank proposal (guilt)- search-proposal (seatbelt)-negation-selection (sa dness)- blank proposal (experience)- challenge- check (sa dness)- negation-clarification (unsuccessfully)- clarification (unsuccessfully)- proposal (unsuccessfully)- negation (unsuccessfully)- search-focus</p>
2	4.45-7.47	<p>*correct selection</p> <p>Target word: in vain</p> <p>Selected candidate: unsuccessfully</p> <p>Dilemmatic candidates: Unintended (I've got it); Correct (unsuccessfully)</p> <p>Blanks and rejects: Unintended (distance, Oh no!, Lets go!)</p> <p>Sequence: Search-proposal (I've got it!)- blank proposal (Let's go!)- check (I've got it!)- blank proposal (Oh no!)- proposal (unsuccessfully)- negation-repeat proposal (I've got it!)- negation (I've got it!)- search- clarification (in vain)- blank proposal (distance)- overheard (unsuccessfully)- repeat proposal (unsuccessfully)- justification (because they stay up)- selection (unsuccessfully)- negation (unsuccessfully)- defence (it's the only word that makes sense)- search-confirmation (unsuccessfully)- selection (unsuccessfully)</p>
3	8.40-10.03	<p>*correct selection</p> <p>Target word: distraction</p> <p>Selected candidate: escape</p> <p>Dilemmatic candidates: Unintended (experience); Correct (escape)</p> <p>Blanks and rejects: Unintended (guilt)</p> <p>Sequence: Search-a priori meaning (you're putting them off)- check (guilt)- negation-proposal (escape)- counter proposal (experience)- check (escape)- check (experience)- split proposal (escape or experience)- negation-a priori meaning (distraction doesn't mean experience) - justification (you can escape from your troubles)- negation (experience)- justification (his cat is the trouble)- repeat proposal (escape)- selection (escape)-check (escape)</p>
4	10.42-11.35	<p>*correct selection</p> <p>Target word: Eureka!</p> <p>Selected candidate: I've got it</p> <p>Dilemmatic candidates: (I've got it)</p> <p>Blanks and rejects: Intended (Oh no!)</p> <p>Sequence: Proposal (I've got it!)- justification (in voice of character)- confirmation (I've got it!)- Selection (I've got it!)- counter proposal (Oh no!)- negation-a priori meaning (eureka means I've got it; Yippee)</p>

E4.25 Week 4 Day 3 Group A

1	3.21- 4.09	<p>*Correct selection</p> <p>Target word: trepidation</p> <p>Selected candidate: fear</p> <p>Dilemmatic candidates: Correct (fear)</p> <p>Blanks and rejects: Quasi proposal (quickly); Unintended (calmly); Intended (anger)</p> <p>Sequence: clarification (trepidation)- search-quasi proposal (quickly)- proposal (fear)- check (fear)- negation-split proposal (fear or anger)- check (fear)- search-repeat proposal (fear)- justification (fear is what he might find in the house)- proposal (calmly)-negation -selection (fear)</p> <p>0.48</p>
2	4.18- 5.01	<p>Target word: emaciated (emay-ckiated/emi-cated)</p> <p>Selected candidate: hungrily</p> <p>Dilemmatic candidates: Unintended (hungrily)</p> <p>Blanks and rejects: Unintended (anger); Intended (noisy, happy); Correct (starving)</p> <p>Sequence: search-focusing- search-citation(he hasn't been fed for days)- focusing- proposal (hungrily)- negation (hungrily- it's all about Billy)-defence (his bowl had been licked clean)- repeat proposal (hungrily)- selection (hungrily)- proposal (noisy)- negation - proposal (starving)- negation-blank proposal (happy)- blank proposal (anger) (Play fighting between two students ends the episode)</p> <p>0.43</p>
3	5.08- 5.17	<p>Target word: deteriorated (destroy; destoriated)</p> <p>Selected candidate: happened</p> <p>Dilemmatic candidates: Intended (happened)</p> <p>Blanks and rejects: None</p> <p>0.09</p> <p>Sequence: selection (happened)- confirmation (happened)</p>
4	5.30- 5.57	<p>*Correct selection</p> <p>Target word: nonchalantly (not- chant- edly)</p> <p>Selected candidate: calmly</p> <p>Dilemmatic candidates: Correct (calmly)</p> <p>Blanks and rejects: Intended (thirstily)</p> <p>Sequence: clarification- search- proposal (thirstily)- negation - proposal (calmly)- selection (calmly)</p> <p>0.27</p>

E4.26 Week 4 Day 3 Group B

1	3.36-4.25	<p style="text-align: right;">*correct selection</p> <p>Target word: trepidation (trep- ee- da tion)</p> <p>Selected candidate: fear</p> <p>Dilemmatic candidates: None</p> <p>Blanks and rejects: None</p> <p>0.49</p> <p>Sequence: search- proposal (fear)- check (fear)- appeal- selection (fear)</p>
2	4.26-5.20	<p style="text-align: right;">*correct selection</p> <p>Target word: emaciated (emesticated)</p> <p>Selected candidate: Starving</p> <p>Dilemmatic candidates: Correct(starving).</p> <p>Blanks and rejects: Unintended (menacingly)</p> <p>0.54</p> <p>Sequence: search- clarification- list (happy, starving, noisy, excited, menacingly)- nega- tion (menacingly)- proposal (starving)- challenge- check (starving) - selection (starving)</p>
3	5.22-5.43	<p style="text-align: right;">*correct selection</p> <p>Target word: deteriorated (det-or-ated)</p> <p>Selected candidate: got worse</p> <p>Dilemmatic candidates: None</p> <p>Blanks and rejects: None</p> <p>0.21</p> <p>Sequence: search- proposal (got worse)- selection (got worse)</p>
4	5.48-6.24	<p style="text-align: right;">*correct selection</p> <p>Target word: nonchalantly (non-chalant)</p> <p>Selected candidate: calmly</p> <p>Dilemmatic candidates: Intended (thirstily); Correct (calmly)</p> <p>Blanks and rejects: None</p> <p>0.36</p> <p>Sequence: proposal (thirstily)- check (thirstily)-counter proposal (calmly)- check (calmly)- split proposal (calmly, thirstily)- proposal (calmly)- appeal- selection (calmly)</p>

E4.27 Week 4 Day 3 Group C

3	4.20-4.22 9.35-10.48 11.52-12.20 1.43	<p style="text-align: right;">*correct selection</p> <p>Target word: deteriorated (decorated, detor-)</p> <p>Selected candidate: got worse</p> <p>Dilemmatic candidates: Intended (got damaged, happened); Correct (got worse)</p> <p>Blanks and rejects: Unintended (excited, sadness)</p> <p>Phase 1 Sequence: proposal (got worse)-</p> <p>(The proposal is made whilst the reader is reading the text and so the proposal is suspended so the reader can finish)</p> <p>Phase 2 sequence: incomplete clarification- proposal (got damaged)- check- selection (got damaged)- appeal- proposal (happened)- check (happened)</p> <p>(The sole worker is distracted by the disengaged member)</p> <p>Phase 3 sequence: selection (got damaged)- blank proposal (excited)- blank proposal (sadness)- check (got worse)- selection (got worse)</p>
4	7.01-7.15 7.43 0.15	<p>Target word: nonchalantly (non- ch)</p> <p>Selected candidate: Thirstily</p> <p>Dilemmatic candidates: Intended (Thirstily)</p> <p>Blanks and rejects: Intended (hungrily)</p> <p>Phase 1 Sequence: proposal (thirstily)- blank proposal (hungrily)</p> <p>(At this point the two boys working on the task are distracted by the third member who had disengaged)</p> <p>Phase 2 sequence: selection (thirstily)</p>
2	12.26-12.31 0.05	<p>Target word: emaciated (esetuated)</p> <p>Selected candidate:</p> <p>Dilemmatic candidates: Intended (happy);</p> <p>Blanks and rejects: None</p> <p>Sequence: focusing- selection (happy)</p>
1	21.08-21.10 0.02	<p>Target word: trepidation (trep-) (corrected)</p> <p>Selected candidate:</p> <p>Dilemmatic candidates: Intended (anger)</p> <p>Blanks and rejects: None</p> <p>Sequence: selection (anger)</p>

E4.28 Week 4 Day 3 Group D

1	3.13-3.54	<p>*correct selection</p> <p>Target word: trepidation (trapeidium) (corrected)</p> <p>Selected candidate: fear</p> <p>Dilemmatic candidates: Unintended (quasi) (thirsty); Intended (hope); Correct (fear)</p> <p>Blanks and rejects: Unintended(got worse)</p> <p>Sequence: Focusing- proposal (fear)-check (fear)-justification (fear- cause he's scared)- quasi proposal (thirsty/thirstily)- justification (he's very thirsty to get into the house) counter-proposal (hope) -confirmation (what might happen)- proposal (got worse)- negation- repeat proposal (fear)- repeat proposal- (hope)- check (fear)- selection (fear) negation (fear).</p>
2	6.09-8.01 12.01-12.10 2.01	<p>Target word: emaciated (ee- mess- ited)</p> <p>Selected candidate: Unintended (hungrily)</p> <p>Dilemmatic candidates: Unintended (hungrily) Correct (starving)</p> <p>Blanks and rejects: Unintended (calmly; noisy; sadness; anger); Intended (excited; happy)</p> <p>Phase 1 Sequence: search-checklist (calmly, noisy, sadness)- negation- proposal (starving)- negation- defence (starving)- challenge- justification (cos you can see his ribs)- counter proposal (excited)- negation- justification (starving)- negation (starving)- check (an starving)- proposal (hungrily)- negation- defence (hungrily)- blank proposal (anger)- counter proposal (happy)- negation- challenge (have you got a dog?)- negation (no you haven't)- defence (A cat. We're talking about a cat)- negation (It's a dog he has- he doesn't like the cat)- justification (he's hungry) repeat proposal (hungrily)- justification (can see his ribs of his fur)- check (hungrily)- defence (hungrily)- check (hungrily)- defence (hungrily)- negation- defence (read through the other sentences)- check (hungrily)- citation (his food bowl had been licked clean)-negation (hungrily)- selection (hungrily)- repeat proposal (starving)</p> <p>(Interruption)</p> <p>Phase 2 Sequence focusing (you know that one)- repeat proposal (starving)- check- negation (starving)</p>
3	9.27-9.39 9.45-10.13 0.40	<p>*correct selection</p> <p>Target word: deteriorated (decorated; deter-i-orted; deter-irated; dehydrated)</p> <p>Selected candidate: got worse</p> <p>Dilemmatic candidates: Intended (got damaged); Correct (got worse)</p> <p>Blanks and rejects: None</p> <p>Phase 1 Sequence: Search- proposal (got damaged)- selection (got damaged)- (Student starts reading the next section of text)</p> <p>Phase 2 sequence- negation (got damaged)- proposal (got worse)- negation- defence (got worse)- counter proposal (got damaged)- justification (the sheets were pinned to the wall- it got worse- it got damaged)- confirmation (got worse)- selection (got worse)- negation-confirmation (got damaged)- repeat proposal (got worse)- counter proposal (got damaged) (One group member threatens to slap the others if the selection is wrong)</p>
4	12.12-13.03 0.51	<p>Target word: nonchalantly (non- chat- ly)</p> <p>Selected candidate: thirstily</p> <p>Dilemmatic candidates: Intended (thirstily)</p> <p>Blanks and rejects: Correct (calmly)</p> <p>Sequence: search-search-search-split proposal (calmly & thirstily)- proposal (thirstily)- negation- justification (a little sip)- check (thirstily)- clarification (menacingly)- selection (thirstily)- confirmation-repeat proposal (thirstily).</p>

E4.29 Week 4 Day 4 Group A

1	0.58-1.00	<p>*correct selection</p> <p>Target word: livid Selected candidate: furious Dilemmatic candidates: None Blanks and rejects: None</p> <p>0.02 Sequence: selection (furious)</p>
3	3.24-3.56	<p>Target word: pulverised (persuaded)</p> <p>Selected candidate: Killed Dilemmatic candidates: Intended (killed) Blanks and rejects: Intended (run over)</p> <p>0.32 Sequence: split proposal (killed or run over)- confirmation- citation (by a passing petrol tanker)-selection (killed)- check- citation (the cat was dead)- negation (killed)- justification (because it says 'dead')- citation (dead)- defence (yes but it was killed) (This episode is interrupted by a clarification relating to the next target word.)</p>
4	3.57-4.08	<p>*correct selection</p> <p>Target word: anaesthetised (actualised)</p> <p>Selected candidate: hypnotised Dilemmatic candidates: None Blanks and rejects: None</p> <p>0.11 Sequence: clarification (hypnotised)- selection (hypnotised)- challenge- confirmation (hypnotised)</p>
2	4.30-5.13	<p>Target word: pandemonium (panto- monium)</p> <p>Selected candidate: damage Dilemmatic candidates: Intended (damage) Blanks and rejects: Correct (confusion); Intended (fighting)</p> <p>0.43 Sequence: focusing- search- (the student is asked if she would like a close up by the student operating the camera)- blank proposal (fighting)- proposal (confusion)- negation (it doesn't make sense)- proposal (damage)-selection (damage)</p>

E4.30 Week 4 Day 4 Group B

1	3.38 3.49	<p>*correct selection</p> <p>Target word: livid</p> <p>Selected candidate: furious</p> <p>Dilemmatic candidates: None</p> <p>Blanks and rejects: None</p> <p>0.11 Sequence: Focus-search-a priori meaning (that means angry-like furious)-selection (furious)-appeal.</p>
2	3.51- 4.26	<p>*correct selection</p> <p>Target word: pandemonium</p> <p>Selected candidate: confusion</p> <p>Dilemmatic candidates: None</p> <p>Blanks and rejects: None</p> <p>0.35 Sequence: focusing-proposal (confusion)-check (confusion)-selection (confusion)</p>
3	4.32- 5.18	<p>*correct selection</p> <p>Target word: pulverised (pul-ver-ised)</p> <p>Selected candidate: crushed</p> <p>Dilemmatic candidates: Correct (crushed)</p> <p>Blanks and rejects: Intended (run over)</p> <p>0.46 Sequence: search-blank proposal (run over)-counter proposal (crushed)-check (crushed)-repeat proposal (crushed)-selection (crushed)</p>
4	5.22- 5.37	<p>*correct selection</p> <p>Target word: anaesthetised (an-)</p> <p>Selected candidate: hypnotised</p> <p>Dilemmatic candidates: None</p> <p>Blanks and rejects: None</p> <p>0.15 Sequence: proposal (hypnotised)-clarification (anaesthetised)-check (hypnotised)-appeal-selection.</p>

E4.31 Week 4 Day 4 Group C

1	2.37- 3.46 1.09	<p>Target word: livid (Live- ied) (self corrected)</p> <p>Selected candidate: (upset)</p> <p>Dilemmatic candidates: Intended (Upset)</p> <p>Blanks and rejects: Quasi (angry: miss); Unintended: (hit, killed; mess; tricked; crushed); Intended (confused)</p> <p>Sequence: search- quasi proposal (angry)- blank proposal (killed)- check (upset)- blank proposal (hit)- quasi proposal-(miss/mess)- repeat proposal-(upset)- blank proposal (crushed)-selection (upset)- blank proposal (confused)- blank proposal (tricked)- negation.</p>
2	4.32- 5.06 0.34	<p style="text-align: right;">*correct selection</p> <p>Target word: pandemonium</p> <p>Selected candidate: confusion</p> <p>Dilemmatic candidates: Correct (Confusion)</p> <p>Blanks and rejects: Unintended (fooled)</p> <p>Sequence: focusing- blank proposal (fooled)- (We should read it all) counter proposal (confusion)-selection (confusion).</p>
3	6.43- 7.05 0.22	<p>Target word: pulverised (pulverise; pivoted; pervert; pul-ver-ised)</p> <p>Selected candidate: run over</p> <p>Dilemmatic candidates: Intended (run over)</p> <p>Blanks and rejects: None</p> <p>Sequence: clarification-clarification- clarification- proposal (run over)-selection (run over)- clarification- repeat proposal (run over)-</p>
4	8.56- 9.20 9.31- 9.41 0.34	<p style="text-align: right;">*correct selection</p> <p>Target word: anaesthetised (an- as -tised)</p> <p>Selected candidate: hypnotised</p> <p>Dilemmatic candidates: Correct (hypnotised)</p> <p>Blanks and rejects: Unintended (crushed) Intended (tricked)</p> <p>Phase 1 Sequence: search-blank proposal (tricked)- blank proposal (crushed)- (The student is distracted by the others who are ignoring his efforts and are working on the storyboards)</p> <p>Phase 2 sequence: Focusing (number 4)-clarification(hypnotised)-check- selection (hypnotised)</p>

E4.32 Week 4 Day 4 Group D

1	1.42-2.46	<p>Target word: livid (livered)(self correction)</p> <p>Selected candidate: confused</p> <p>Dilemmatic candidates: Intended (confused); Correct (furious)</p> <p>Blanks and rejects: Unintended (confusion) Intended (tired, upset)</p> <p>Sequence: focusing-search-proposal (furious)- a priori meaning (livid is the same as furious)- repeat proposal (furious)- justification- (cos when he shouts)- selection (furious)- check (furious)- citation (door barking furiously)- challenge (what else could it be?)- proposal (confused)- blank proposal (upset) blank proposal (tired)- repeat proposal (confused)- justification (confused- he doesn't know what is happening)- negation (confused)- repeat proposal (furious)- selection (confusion)-negation (that's confusion)</p> <p>(An argument follows where the proposer of confusion slaps the proposer of furious. Whilst this happens another student swaps the unintended candidate confusion for the intended candidate confused)</p>
	1.04	-selection (confused).
2		<p>Target word: pandemonium (pandonium) (self corrected)</p> <p>Selected candidate: fighting</p> <p>Dilemmatic candidates: Correct (confusion) Intended (fighting)</p> <p>Blanks and rejects: Unintended (threatened); Intended (damage):</p> <p>Phase 1 Sequence: selection (fighting)- negation- proposal (fighting)- negation (you can't just put things on)</p> <p>(Because the reader has not yet finished reading the paragraph containing the target word, the selection is vetoed. A short argument follows whilst the reader continues to complete the reading.</p> <p>(The slap is discussed. The member who gave the slap reminds the victim of the decision to slap a group member if he gets an answer wrong. Phase 2 happens whilst this conversation takes place involving the other three students)</p>
	3.28-4.03	
	4.12-4.23	<p>Phase 2 sequence: search- proposal (confusion)</p> <p>(The conversation about the slap finishes and the group is called to order by the member who was slapped)</p>
	4.30-5.00	<p>Phase 3 sequence: Focusing-search- repeat proposal (confusion)- counter proposal (fighting)- repeat proposal (fighting)- repeat proposal (fighting)- repeat proposal (fighting)- justification (it would be lashing out)- blank proposal (damage)-proposal (threatened)- negation - justification (It's fighting cos dogs and cats fight)- selection (fighting)- a priori meaning (that's what pandemonium means-fighting)</p>
	1.16	
3		<p>Target word: pulverised (pulvised)</p> <p>Selected candidate: hit</p> <p>Dilemmatic candidates: Intended (run over; killed; hit);</p> <p>Blanks and rejects: Unintended (threatened, damage)</p> <p>Phase 1 Sequence: blank proposal (threatened)- negation-counter proposal (hit)- citation (The cat's dead)- confirmation (hit)-appeal-split proposal (hit or killed)- repeat proposal (killed)- counter proposal (hit)-check (killed)-check (hit)- counter proposal (run over)- check (run over)- confirmation (run over)- counter proposal (hit)- confirmation (hit)- negation-check (run over)- split proposal (hit or killed)- blank proposal (damage)- incomplete election- deferment- incomplete election- split selection (hit, killed, run over)</p> <p>(Interruption)</p>
	6.09-7.22	
	8.26-8.56	<p>Phase 2 sequence: focusing-election-repeat proposal (hit)- election-repeat proposal (run over)- election-(selection (hit)- counter proposal (killed)- negation-counter proposal (run over)- negation-appeal-selection (hit)- repeat proposal (hit)- challenge (Jim threatens to slap the group if the correct answer is run over)</p>
4	7.43-7.56	<p style="text-align: right;">*correct selection</p> <p>Target word: anaesthetised ('Doesn't really matter')</p> <p>Selected candidate: Hypnotised</p> <p>Dilemmatic candidates: None</p> <p>Blanks and rejects: None</p> <p>Sequence: proposal (hypnotised)-check (hypnotised)-repeat proposal (hypnotised)- selection(hypnotised).</p>
	0.13	

E5 Overview of synopses

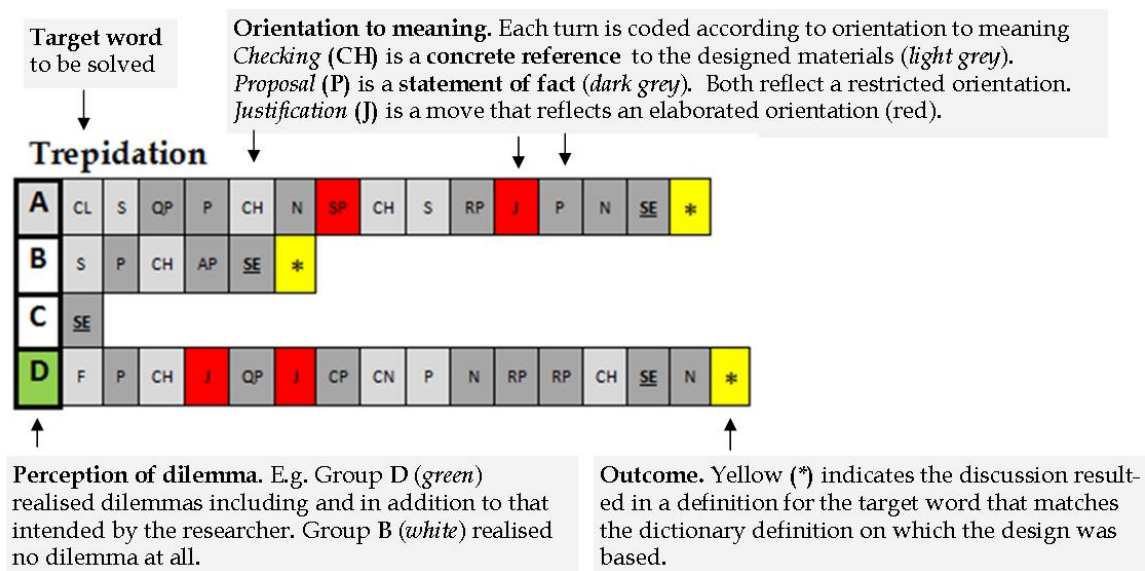
	Group A					Group B					Group C					Group D				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
1	0.31	0.02	0.55	0.12	0.07	0.44	0.42	0.35	0.28	0.27	0.07	0.38	0.50	0.25	0.13	1.03	*	1.14	0.45	1.00
	0.29	0.16	0.17	0.15	0.17	1.11	0.38	0.21	0.34	0.33	0.27	0.45	0.21	1.25	*	1.29	0.16	0.58	1.04	*
	0.22	0.13	0.27	0.14		0.21	0.24	0.30	0.24		0.17	0.14	0.57	1.06		0.35	*	0.58	1.37	
2	0.17	0.12	0.41	0.10		*	1.35	0.23	0.31		0.35	0.24	0.29	0.05		1.12	0.31	2.58	0.21	
	0.45	0.09	0.19	0.11		0.44	0.11	2.42	1.20		0.54	2.05	0.29	1.44		1.19	*	2.13	3.20	
	2.15	1.12	0.38	0.23		0.44	1.32	0.29	0.16		*	2.14	1.14	0.16		2.09	*	1.23	0.53	
3	0.48	0.43	0.09	0.27		0.49	0.54	0.21	0.36		0.02	0.05	1.43	0.15		0.41	2.01	0.40	0.51	
	0.02	0.43	0.32	0.11		*	0.35	0.46	0.15		1.09	0.34	0.22	0.34		1.04	1.16	1.43	0.13	
Week 3																				
4	0.17	0.12	0.41	0.10		*	1.35	0.23	0.31		0.35	0.24	0.29	0.05		1.12	0.31	2.58	0.21	
	0.45	0.09	0.19	0.11		0.44	0.11	2.42	1.20		0.54	2.05	0.29	1.44		1.19	*	2.13	3.20	
	2.15	1.12	0.38	0.23		0.44	1.32	0.29	0.16		*	2.14	1.14	0.16		2.09	*	1.23	0.53	
5	0.48	0.43	0.09	0.27		0.49	0.54	0.21	0.36		0.02	0.05	1.43	0.15		0.41	2.01	0.40	0.51	
	0.02	0.43	0.32	0.11		*	0.35	0.46	0.15		1.09	0.34	0.22	0.34		1.04	1.16	1.43	0.13	
Week 4																				
6	0.17	0.12	0.41	0.10		*	1.35	0.23	0.31		0.35	0.24	0.29	0.05		1.12	0.31	2.58	0.21	
	0.45	0.09	0.19	0.11		0.44	0.11	2.42	1.20		0.54	2.05	0.29	1.44		1.19	*	2.13	3.20	
	2.15	1.12	0.38	0.23		0.44	1.32	0.29	0.16		*	2.14	1.14	0.16		2.09	*	1.23	0.53	
7	0.48	0.43	0.09	0.27		0.49	0.54	0.21	0.36		0.02	0.05	1.43	0.15		0.41	2.01	0.40	0.51	
	0.02	0.43	0.32	0.11		*	0.35	0.46	0.15		1.09	0.34	0.22	0.34		1.04	1.16	1.43	0.13	
8	0.17	0.12	0.41	0.10		*	1.35	0.23	0.31		0.35	0.24	0.29	0.05		1.12	0.31	2.58	0.21	
	0.45	0.09	0.19	0.11		0.44	0.11	2.42	1.20		0.54	2.05	0.29	1.44		1.19	*	2.13	3.20	
	2.15	1.12	0.38	0.23		0.44	1.32	0.29	0.16		*	2.14	1.14	0.16		2.09	*	1.23	0.53	
9	0.48	0.43	0.09	0.27		0.49	0.54	0.21	0.36		0.02	0.05	1.43	0.15		0.41	2.01	0.40	0.51	
	0.02	0.43	0.32	0.11		*	0.35	0.46	0.15		1.09	0.34	0.22	0.34		1.04	1.16	1.43	0.13	

Appendix F Case selection

F1 Key to episode summaries

The summaries used for visual analysis and selection of solving episodes for micro analysis follow the codes set out in the code book (Appendix E).

Presentation of these episodes is as below.



F2.1 Week 3 Day 1

A	F	S	A	N	N	P	<u>SE</u>			
B	CL	S	P	SP	E	<u>SE</u>	S			
C	F	A	CH	<u>SE</u>						
D	F	A	<u>SE</u>	CG	J	A	CH	N	CH	J

[illegible]

A	F	L	SP	P	CH	RP	CP	<u>SE</u>	RP		CG	CH	J	CH	CG	J	CH	N	CP	SE		RP	CN	*
B	S	L	P	E	DS	RP	P	N	CP	J	<u>SE</u>													
C	F	P	CH	CP	N	J	S	P	CH	CH	P	CH	RP	CH	P	<u>SE</u>	CN							
D	F	CL	S	P	N	CP	CG	CI	A	<u>SE</u>	J	CH	CH	CL	CH	J	N	P	CN	RP	N	RP	<u>SE</u>	

A	F	S	P	CN	<u>SE</u>											
B	S	CL	A	P	AP	<u>SE</u>										
C	S	SP	<u>SE</u>	CN												
D	S	CL	QP	P	CH	N	P	CP	CN	CN	J	SS		<u>SE</u>		

A	P	CN	<u>SE</u>													
B	F	S	DS	P	E	<u>SE</u>										
C	S	P	N	P	CP	<u>SE</u>										
D	S	CL	P	CH	SP	BP	S	P	SC	N	CP	J	CI	N	<u>SE</u>	

F.2.2 Week 3 Day 2

Subtle

A	F	A	S	P	CN	P	N	CN	N	CN	SE												
B	CL	S	L	S	P	CH	CP	CH	N	DS	P	CH	N	P	E	SE							
C	F	CL	P	N	BP	BP	DF		P	CH	SE												
D	F	S	P	CG	A	SC	A	CH	N	P	N	CP	CH	N	RP	N	D	CH	N	D	CP	CH	N
	CH	N	CH	CN	SE	CP																	

Pristine

A	CH	F	SP	P	SE	*													
B	S	CL	P	CP	CN	RP	SP	J	RP	CH	RP	CN	SE	J					
C	CL	QP	S	P	CP	CH	N	BP	P	CN	SE								
D	P		CN	SE															

Particular about things

A	P	S	P	RP	<u>SE</u>														
B	F	S	P	<u>SE</u>	CN														
C	F	S	QP	P	J	<u>SE</u>													
D	F	A	P	N	RP	A	P	N	D	J	RP	CP	CN	<u>SE</u>	N	CH	P	N	BP

Like a ton of bricks

A	P	J		RP	DF		F	S	<u>SE</u>	*											
B	P	A	CH	CH	L	CG	A	<u>SE</u>	*												
C	P	<u>SE</u>	QP	N	RP	N	A	L	*												
D	<u>SE</u>	A	N	J	N	D	CH	CP	N	CN	P	N	RP	CP	BP	RP	CP	J	N	CN	*

Obsessively

A	F	A	P	P	J	<u>SE</u>	*			
B	F	P	S	P	CH	<u>SE</u>	*			
C	QP	CH	<u>SE</u>	DF		CH	*			
D	S	P	CI	F	CL	S	P	CN	<u>SE</u>	*

F2.3 Week 3 Day 3

Smartly

A	F	P	CG	CH	CP	SE										
B	F	S	CL	P	CP	SP	CH	CH	RP	RP	CN	N	J	AP	SE	
C	F	S	P	A	SE											
D	P	N	RP	CH	SP	CH	RP	SE								

Debris

A	CL	S	P	CH	<u>SE</u>	*															
B	S	P	SP	CI	CH	P	AP	<u>SE</u>													
C	F	S	P	CN	<u>SE</u>	*															
D	P	J	RP	CP	CH	N	RP	RP	J	CP	CN	CP	CH	N	RP	<u>SE</u>		P	CH	CP	SP
	CP	J	CG	CP	CI	QP	N	CH	RP	<u>SE</u>	J	*									

Hopperfull

[illegible]

Stifling

A	F	S	P	<u>SE</u>	CN	*																		
B	S	P	CH	DIS	J	<u>SE</u>	*																	
C	CL	S	P	CP	CH	N	P	CH	N	CH	RP	RP	RP	CH	N	AP	P	<u>SE</u>	*					
D	P	CP	N	BP	RP	QP	CH	QP	J	RP	DS	CI	DF		P		CG	CP	CN	N	CH	CI		
	A	BP	CH	<u>SE</u>	*																			

F2.4 Week 3 Day 4

Malign

A	SP	CH	<u>SE</u>	*																
B	CL	S	L	P	P	RP	SP	J	N	CH	CH	CH	SP	CH	RP	J	N	AP	<u>SE</u>	*
C	CL	L	P	CH	<u>SE</u>															
D	CL	S	P		CL	S	QP	CI	CP	CN	CH	CP	SP	RP	J	RP	<u>SE</u>			

Shivering

A	P	A	CH	SE																			
B	S	A	N	P	CG	CP	N	A	D	S	CH	CI	D	S	SP	P	N	RP	J	AP	CH	SE	*
C	F	SE		P	BP	SE	CH	*															
D	A	CH	SE	AP	A	CN	CP	N	A														

Distractedly

[illegible]

Defenceless

A	F	A	P	SE	*		
B	S	P	CH	RP	A	SE	*
C	SE	A	*				
D	A	SE	CH	*			

F2.5 Week 4 Day 1

Pessimistic

A	F	S	BP	BP	CN	RP	SE																	
B	S	F	CH	P	P	N	RP	CH	SP	AP	RP	SE												
C	CL	S	P	N	BP	P	CH	P	N	BP	CH	SE												
D	CH	CH	P	CH	P	RP	P	CH	SP	RP	AP	CH	RP	CH	N	J	CH	N	J	D	RP	AP	CH	SE

Sinister

A	P	CN	<u>SE</u>	*																				
B	A	CN	<u>SE</u>	*																				
C	F	P	S	P	P	CH	P	CH	CH	BP		F	S	RP	RP	CH	N	O	CH	SS	DF		F	E
	CH	RP	N	CH	CH	CH	S	DF		<u>SE</u>														
D	F	S	P	N	BP	P	CP	RP	RP	CH	BP	CH	N	P	S	RP	P	CH	P	CH	RP	SP	RP	CH
	RP	CH	E	<u>SE</u>	*																			

Canned

A	P	CN	SE	*																								
B	F	S	P	CP	BP	P	N	P	CH	CH	N	RP	RP	CH	CH	CH	DF		S	BP	CT	S	SP	N	RP	SE		
C	SE	S	CN																									
D	S	P	CP	RP	CP	P	P	N	RP	N	J	SP	S	RP	RP	RP	RP	N	RP	CN	BP	RP	CH	RP	SP	RP		
	CP	CP	CP	J	N	RP	SP	RP	SE	DF																		

Gathering

A	A	P	CN	SE	*																			
B	S	CL	N	S	P	CH	CH	CH	CH	N	RP	AP	RP	SE										
C	CL	S	P	N	L	P	CH	SE		N	SE													
D	CL	S	P	P	SP	QP	SC	RP	CN	J	J	CH	A	RP	RP	CH	SE	CP	CN	CH	J	A	AP	

F2.6 Week 4 Day 2

Conscience

A	S	P		P	CH	F	CH	F	F	F	CH	RP	RP	<u>SE</u>	CP	CG	D	CG	S	D	CI	RP	SS
	RP	J	CH	CG	J	N	CI	RP	RP	RP	<u>SE</u>												
B	F	F	S	S	S	S	P	CP	RP	CH	N	CH	AP	AP	<u>SE</u>								
C	CL	F	CL	CL	P	N	P	N	P	P	N	CP	N	P	RP	J	CH	BP	P	N	P		
	S	N	BP	P	RP	A	A	A	<u>SE</u>	*													
D	P	F	S	F	F	P	S	RP	CH	N	CP	N	J	CH	CG	CH	D	CH	D	CH	CP	N	S
	BP	S	P	N	<u>SE</u>	BP	CG	CH	N	CL	CL	P	N	CH	S	F							

In vain

A	S	P	CH	J	N	A	SE		CP		F	RP	CH	N	N	D	CG								
B	F	S	CL	P	N	S	AP	P	CH	AP	SE	*													
C	F	A	P	N	CI	P	S	RP	S	RP	S	RP	CH	P	N	RP	N	BP	BP	P	P		CH	SE	N
	BP	S	QP	SE	J	*																			
D	S	P	BP	CH	BP	P	N	RP	N	S	CL	BP	O	RP	J	S	N	D	S	CN	SE	*			

Distraction

A	F	A	BP	S	A		F	S		F		S	P	<u>SE</u>	*									
B	S	P	CH	AP	<u>SE</u>	*																		
C	F	A		F	P	N	P	<u>SE</u>	CG	CH	CH		F	A	S	RP	CN	CL	CN	<u>SE</u>	*			
D	S	A	CH	N	P	CP	CH	CH	SP	N	A	J	N	J	RP	<u>SE</u>	CH	*						

Eureka

A	P	N	A	<u>SE</u>	A	*																	
B	S	CL	P	CH	<u>SE</u>	*																	
C	CL	P	CL	<u>SE</u>																			
D	P	J	CN	<u>SE</u>	CP	N	A	*															

F2.7 Week 4 Day 3

Trepidation

A	CL	S	QP	P	CH	N	SP	CH	S	RP	J	P	N	SE	*	
B	S	P	CH	AP	SE	*										
C	SE															
D	F	P	CH	J	QP	J	CP	CN	P	N	RP	RP	CH	SE	N	*

Emaciated

A	S	F	S	CI	F	P	N	D	RP	SE	P	N	P	N	BP	BP									
B	S	CL	L	N	P	CG	CH	SE	*																
C	F	SE																							
D	S	CT	N	P	N	D	CG	J	CP	N	J	N	CH	P	N	D	BP	CP	N	P	N	CG	N	D	N
	J	RP	J	CH	D	CH	D	N	D	CH	CI	N	SE	RP		F	RP	CH	N						

Deteriorated

[illegible]

Nonchalantly

[illegible]

F2.8 Week 4 Day 4

Livid

A	<u>SE</u>	*																			
B	F	S	A	<u>SE</u>	AP	*															
C	S	QP	BP	CH	BP	QP	RP	BP	<u>SE</u>	BP	BP	P	N								
D	F	S	P	A	RP	J	<u>SE</u>	CH	CI	CG	P	BP	BP	RP	J	N	RP	<u>SE</u>	N		<u>SE</u>

Pandemonium

A	F	S	BP	P	N	P	SE															
B	F	P	CH	SE	*																	
C	F	BP	CP	SE	*																	
D	SE	N	P	N		S	BP		F	S	RP	CP	RP	RP	RP	J	BP	P	N	J	SE	A

Pulverised

A	SP	CN	CI	<u>SE</u>	CH	CI	N	J	CI	D														
	S	BP	CP	CH	RP	<u>SE</u>	*																	
C	CL	CL	CL	P	<u>SE</u>	CL	RP																	
D	BP	N	CP	CI	CN	AP	SP	RP	CP	CH	CH	CP	CH	CN	CP	CN	N	CH	SP	BP	E	DF	E	SS
		F	E	RP	E	RP	E	<u>SE</u>	CP	N	CP	N	AP	<u>SE</u>	RP	CG								

Anaesthetised

A	CL	<u>SE</u>	CG	CN	*				
B	P	CL	CH	AP	<u>SE</u>	*			
C	S	BP	BP		F	CL	CH	<u>SE</u>	*
D	P	CH	RP	<u>SE</u>	*				

Appendix G Transcribed episodes

G1 Formatting of transcripts

An example of the format used for transcription is shown below. The left hand column denotes the order that the turns appear in each episode. The next column denotes the time on the recording when each turn takes place. Transcribed phenomena are split into those involving **physiological resources** (*physical actions and voice*) and **technical resources** (*use of artefacts, tools*) following Leeuwen (2005). The centre column codes how the transcripts correspond to the episode summaries used for case selection (e.g. Ali's first turn in the example below is coded F (focusing)). The header and left margin are coloured according to how the dilemma was perceived (*white& grey= no dilemma; red, orange and yellow= students' dilemma; green, blue & purple= teacher's dilemma*). Empty cells in the transcript are shaded light grey so that the eye is drawn to those cells that contain data.

Time		Physical		Vocal			Artefactual		
1	5:28			Ali	F	What's the next word? (1.0) Squall	All	Look at text	
						Ali	Looks across at word cards		
2	5:31			Rob		Aye=			
3	5:32			Sam		=What does [that mean?] Squ::ll !	Sam	Looks at cards	
4	5:33			Rob	CL	[Dunno] Squall (1.0)			
5	5:35	Sam	Looks off camera	Ali	S	By the time we made it home again the rain had started to come down heav (0.5) <u>very</u> heavily. A sudden (4.0)	Ali Rest	Reading from text Looking at Ali's copy of the text glancing at cards	
6	5:45					A sudden storm! (0.5)	Ali	Looks at word cards	

G2 Transcription conventions

Conventions for transcription are taken from Davidson (2010, pp. 102-1).

[]	Overlap in speaker's talk	<u>cat</u>	Underlined shows emphasis
=	Talk between speakers that latches or follows without a break	!	Animated tone
(0.2)	Length of pause measured in seconds	:::	Sound prior to the colon is elongated
(.)	Micro intervals	()	Empty brackets indicate utterances that could not be worked out
LOUD	Upper case indicates loud tone	<i>Soft</i>	Italics indicate soft tone

G3 Distributed enactment-Squall (3.1)

G3.1 Group A transcript- Squall

Time		Physical		Vocal			Artefactual	
1	3.02	Kim	Leans into Fay	Kim	F	Squall. You do that one Fay! Heh heh!	Fay Kim Jill	Looks at cards Both look at Kim's copy of the text
2	3.03	Kim	Leans further in and laughs	Jill		That was your paragraph I think.	Fay	Looks at her copy of the text.
3	3.05	Kim	Kim moves away from Fay	Kim		Yeah	Fay	Looks across at cards
4	3.07	Kim Fay	Looks at Fay Props her head on her left hand	Fay		I think it will be	Fay Jill	Looks across at the cards Scans the text
5	3.10			Jill	L	Blocking, spoiling	Jill Kim	Looks at cards Glances at cards
6	3.12			Fay	SP	Wind or storm	All	Look at cards
7	3.15			Jill	P	Where's wind?		
8	3.16			Fay		There.	Fay	Points to the card marked wind
9	3.18	Fay	Looks across at Jill and Kim	Jill	CH	A sudden wind tore along the street	Jill Kim	Holds card against Kim's text and reads Follows Jill's reading of the text
10	3.19			Fay	RP	[A sudden storm]	Fay	Looks at her copy of the text
11	3.19			Jill	CP	[Wind=		
12	3.20			Kim	SE	=Aye	Jill	Places 'wind' on the answer sheet
13	3.21			Jill	RP	No. Wind.	Fay	Looks across at answer sheet
14	3.22			Kim		Right! This one's <u>mine!</u> =	Kim Others	Points to her copy of the text Look at where Kim is pointing
15	3.23			Jill		=No it isn't=	Kim	Stops pointing at her text.
16	3.24			Kim		=No. It's yours.	Jill	Turns to look at her own copy of the text
17	3.25			Jill		Distorting	Kim & Fay	Turn to look at their own copies of the text
Jill solves distorting (blocking) and then Kim solves solemn (soaking). Kim then points out that they have no materials to make the story reconstruction with. Jill leaves to collect these materials from the researcher. The transcript resumes at this point.								

Time		Physical		Vocal			Artefactual	
18	3.58			Fay	CG	Wind doesn't make sense you know.		
19	3.59	Kim	Leans towards Fay and starts to whisper something	Kim		Laughs		
20	4.02			Fay	CH	Look. A sudden wind tore along the street.	Fay	Points to her copy of the text whilst Kim looks on
21	4.07			Fay	J	It doesn't make any sense	Both	Look at the answer sheet
22	4.08	Kim	Frowns	Kim		What?		
23	4.10	Jill Fay & Kim	Returns Turn to face her	Fay	CH	A sudden wind	Kim	Reads from Fay's copy of the text
24	4.12	Jill	Glances at camera as she sits down	Jill		He's coming back in a minute. (1.0) So do you actually think it's that?	Others	Look at answer sheet
25	4.16						Kim & Fay	Glance at the answer sheet
26	4.17			Kim		What? For squall? =		
27	4.18			Fay	CG	=I don't know about wind. (2.0)		
28	4.22				J	Storm makes more sense.	Kim	Discards wind and snatches up storm and holds it against Fay's copy of the text.
29	4.23			Kim	CH	A sudden storm tore along the sheet.	Jill	Leans across the table so she can see Fay's text.
30	4.26	Kim	Frowns					
31	4.28			Jill	N	No		
32	4.29	Jill	Leans back		CP	Wind		
33	4.30				SE		Kim	Discards 'storm' and replaces 'wind' on the answer sheet.
		Researcher returns with materials that the group have requested						
34	4.52			Fay	RP	Wind actually does makes sense		
35	4.54				CN	A wind tore along the street and shook the tops of the branches		
36	4.58	Kim	Leans over and whispers	Kim		()		
37	5.00	Fay	Smiles	Fay		Just tell her.		

G3.2 Group B transcript- Squall

Time		Physical		Vocal			Artefactual	
1	7.26			Lily	S	A sudden (0.2) suqir::::l (0.5) tore along the street and shoo::k the top of	All	Follow Lily's reading using their own copy of the text
2	7.33				L	Is it jav, worried, wind	Lily Sue Eve	Nods at each card as she reads it Looks at cards Continues to look at text
3	7.36				P	<u>Wind</u>	Lily Sue Eve	Looks at 'wind' Looks at 'wind' Looks at text
4	7.37				E	Wind. Who thinks it's wind?	Sue	Looks at her copy of the text
5	7.38				DS	Cos it can't be spoiling or blocking or happy or taken away or [loudly or shut out] or serious or soaking or <u>storm</u>	Eve Lily	Looks across at cards Looks at cards as she reads Points to card marked 'storm'
6	7.41	Sue Eve	Looks at Lily and nods Turns to face Lily and Sue	Sue	RP	[Yeah it's wind]	Sue	Looks at 'wind'
7	7.45	Lily & Sue	Look at each other				Lily	Continues to point at 'storm'
8	7.47			Lily & Sue		Laugh	Lily & Sue	Both turn to look at their texts
9	7.50	Lily Eve	Glances at Eve Glances at Lily	Sue	P	Yeah. It's stor (0.2) storm.		
10	7.52						Lily	Places hand on card marked 'storm'
11	7.53			Lily	N	NO.	Lily	Points to her copy of the text
12	7.54				CP	But maybe it's wind	Lily	Waves her hand at the text in a vague manner
13	7.56				J	cos it says shubbly, shubbly or the.....	Lily Sue	Continues to search text Places 'storm' on the grid
14	7.59			Sue	SE	Storm. Heh heh.		
15	8.01	Lily Sue	Holds up hand as if to pacify or quell an audience Folds her arms and smiles at Lily	Lily		<u>We</u> think it's [storm]!		
16	8.01			Sue		[Heh heh]		

G3.3 Group C transcript- Squall

Time		Physical		Vocal			Artefactual	
1	7.15			John	F	Now squall.	John Roy N&K	Looks across to answer sheet then looks at his text. Looks at text. Scan the cards
2	7.17	Karen	Stands, leans over the table for a better view				John Pete Roy	Read silently
3	7.19			Karen	P	HAPPY	Karen	Picks up 'happy.'
4	7.20			John	CH	Happy.	John	Reads text to himself
5	7.22			Ned	CP	No, happily.	Karen	Drops 'happy'. Picks up 'happily' and waves at Ned
6	7.24			John	N	No!		
7	7.25	John	Puts head in hands	John	J	Cos it wouldn't say a sudden <u>happily</u> .	John Roy	Traces line in text with his finger. Checks his copy of the text
8	7.26			Pete	S	No! You! Look!	Pete	Holds up text to his face and points to it as he prepares to read out the target sentence
9	7.27			Roy	P	Loudly		
10	7.28			Ned	CH	A sudden <u>loudly</u> (0.5) <i>Loud</i> (.) <i>loudly</i> .	Karen	Drops 'happily'. 'Serious' is left on the answer sheet.
11	7.32	Karen	Moves to middle of table and bangs knuckles on its surface.	Pete	CH	A sudden loud (0.2) A sudden <i>loud</i> (0.5) <i>ly</i> (.) <i>loudly</i> (.) tore along	Pete John	Picks up 'loudly' and holds it against his copy of the text. Scans the cards
12	7.41	Karen	Standing with back against camera lens	Teacher		Karen, you're blocking the camera.		
13	7.44	Karen	Moves to one side but continues to stand	Karen		Oh aye		
14	7.46			Roy	P	A <u>car</u> . That's what it is. A <u>car</u> !		
15	7.48			Pete	CH	A sudden=	Pete John	Both look at text
16	7.49			Roy	RP	= car	Pete	Looks down at the card he is holding (loudly), replaces it and picks up 'car'.
17	7.50	Pete John	Looks at Roy and frowns Glances at Roy	Pete	CH	tore along the street and sh::ook (0.5) <i>shook the top of the trees</i> .		
18	7.55						Pete John	Places 'car' back on the table. Looks across to answer sheet
19	7.58			Karen	P	A STORM	Karen John	Snatches up 'storm' Checks his copy of the text
20	7.59				SE		Karen Pete John	Places storm on the answer sheet Looks at the card Looks at text
21	8.01			Karen	CN	A sudden storm came along the street and shook all the trees	John	Continues to read
22	8.05			Pete		Ah! Whay!	Roy	Adjusts the position of 'storm' on the answer sheet.

G3.4 Group D transcript- Squall

Time		Physical		Vocal			Artefactual	
1	5:28			Ali	F	What's the next word? (1.0) Squall	All	Look at text
				Ali			Ali	Looks across at word cards
2	5:31			Rob		Aye=		
3	5:32			Sam		=What does [that mean?] (1.0) Squ::ll !	Sam	Looks at cards
4	5:33			Rob	CL	[Dunno] Squall (1.0) That's a word.		
5	5:35	Sam	Looks off camera	Ali	S	By the time we made it home again the rain had started to come down heav (0.5) <u>very</u> heavily. A sudden (4.0)	Ali Rest	Reading from text Looking at Ali's copy of the text, glancing at cards
6	5:45			Ali	P	A sudden <u>storm</u> ! (0.5)	Ali	Looks at word cards
Tore along the street [shook the branches]								
7	5:48			Rob	N	[wouldn't it be]	Ali	Reaches across and picks up the card marked 'storm'
8	5:49			Sam		[]	Rob	Looks at cards
9	5:50			Rob	CP	=IT'S CAR		
10	5:51	Sam	I knaa, it's <u>car</u> !					
11	5:52			Ali	CG	HOW?		
12	5:53			Rob	CI	TOWED		
13	5:54	Ali	Raises eyebrows and gives shake of the head	Ali		[Never] agree with what ! say!	Rob	Replaces Ali's card on table and picks up card marked 'car'
14	5:57	Rob	Looks at Ali	Rob	A	[TORE] (.) TOWED. CARS GET TOWED	Ali	Points to the relevant line in the text and looks at cards
15	5:58	Ali	Nods		SE		Ali Rob	Looks at cards Places 'car' onto the grid
16	5:59	Ali	Places hand on chin	Ali	J	YEAH! Off the <u>storm</u> . (1.0)	All Jim	Look at Ali's copy of the text Reads from Ali's text, mouthing the words silently
17	6:02	Ali	Pulls a puzzled expres- sion. Gives a slight shrug.	Ali	CH	The rain had started to come down very heavily. A sudden <u>car</u> (0.5) tore along (7.0)	Ali Jim	Reads from text Looks at cards
18	6:12			Ali		The ()	Ali	Looks at cards
19	6:13			Rob		Heh! Heh! (2.0)		
20	6:16	Jim	Looks off camera to teacher	Ali	CH	A sudden car	Ali Sam Rob	Reading from the text Points to the line in Ali's text Looks at the card on the grid
21	6:17	Ali Jim	Looks at Rob and frowns Glances at Rob	Ali	CL	What does <u>tore</u> [mean?]	Ali Rob	Points to the line in the text Looks at cards

Time		Physical		Vocal		Artefactual	
22	6.18	Ali	Glances sideways at Sam	Sam	CH	[A storm] tore along the street and shook the (0.5) tops of (0.5) the br::anches=	Sam Ali Points to words as he reads from Ali's text Also points to text
23	6.25	Ali	Glances sideways at Sam and grimaces	Ali	J	=branches in the trees violently (0.5) It has to be a storm because (...) chuckin it (.)	Sam Points at text as Ali talks
24	6.31			Ali	N	It <u>couldn't</u> be car!	Ali Points emphatically at text
25	6.33	Ali	Looks at Sam	Sam	P	Wind (1.0) wind	Rob Puts finger on card marked wind
26	6.35			Sam	CN	A sudden wind (1.0)	Sam Rob Reading from the text Removes 'car' from grid and tosses it aside
27	6.37	Sam Jim	Looks off camera Glances at Sam	Sam	RP	Storm (1.0)	Rob Sam Places hand near card marked 'wind' Picks up the card marked 'storm'.
28	6.39			Ali	N	A sudden (0.1) <i>No</i>	Rob Takes hand away from 'wind' and points to 'storm' card that Sam is holding.
29	6.40			Ali	RP	It's storm (0.5) It's storm	Ali Takes card marked 'storm' from Sam's hand
30	6.42	Sam Jim	Makes eye contact with Rob Looks off camera	Sam	SE	Heh! Heh!	Ali Jim Rob Places 'storm' on the grid Looks at Ali's copy of the text Puts hand back on 'wind'

G4 Isolated enactment by Group B- Pristine (3.2)

G4.1 Group A transcript- Pristine

Time		Physical		Vocal			Artefactual	
1	3.12			Betty	CH	His shirt collars were always <u>white</u> .	Fay	Standing so she can see the cards
2		Jill Betty	Frowns at Betty Winces					
3	3.18			Fay	F	Where's that?	Fay	Looks for target sentence in her copy of the text, still standing
4				Jill		Here	Jill	Points to line in her text
5	3.22			Betty	SP	Or clean		
6							All	Look at the cards
7	3.26			Fay	P	Put clean		
8	3.28				SE		Betty	Puts 'clean' on the answer sheet.

G4.2 Group B transcript- Pristine

Time		Physical		Vocal			Artefactual	
1	4.28			Sue	S	[His shirt collars were always (1.0) Pris:: (.) tine Heh heh!	All	Look at own copy of text
2				Lily		[Right. Next One is	Sue	Looks across to Lily
3	4.31			Lily	CL	Prey- sten (0.5) Pristen. Trousers ironed and shoes polished.	May	Looks at cards.
4	4.36			May	P	I think it's <u>so</u> clean	May	Reaches across and picks up 'clean'.
5	4.39			Sue	CP	No! [White!		
6	4.39			Lily	CN	[His shirt collars were always white=		
7	4.40	Sue	Glances at May	Sue	RP	= White. Always <u>white</u> .	Sue	Reaches across and picks up card marked 'white'.
8	4.41						Sue & May Lily	Hold cards against each other over Sue's text Looks across but continues to point at her text
9	4.42			Lily	SP	Or clean		
10	4.44					Alright! Back!		
11	4.46			May		Just leave them till the end		
12	4.47			Lily		Wait there!		
13	4.48	Sue	Glances at May	Sue	J	Cos everyone's collars are white(0.5) clean		
14	4.51				RP	I think its white.		
15	4.52			Lily	CH	His shirt [collars were always <u>clean</u>	Lily Sue & May	Points to text as she reads Look at answer sheet
16	4.53			Jim		[What words have you got?		
17	4.57	May	Looks at Jim	May		Clean and white		
18	5.00	Sue	Leans towards Lily and tries to make eye contact	Sue	RP	White	Lily	Points to text and looks at cards
19	5.02			Lily	CN	His shirt collars were always white		
20	5.04				SE			
21	5.06			Sue	J	Yeah. Cos his trousers were always ironed	All	Look down at their texts

G4.3 Group C transcript- Pristine

Time		Physical		Vocal			Artefactual	
1	6.22	Karen	Remains standing throughout	Pete	CL	Right! What do you (0.5) think <i>po</i> (0.2) <i>tis is?</i>	John N& K Pete	Is arranging the cards on the answer sheet Look at their texts Looks across his text which is a yard away from him
2	6.27			Karen	QP	No. Obviously. (0.2) Obviously	Karen N& P John	Glances at answer sheet and then back at text Look at cards Looks at text
3	6.36			John	S	His shirt collars were always	John	Reads from text with finger
4	6.38						Pete John	Plays distractedly with the cards Tries to look at the cards
5	6.40			John	P	Very (0.2) White	John Others	Looks at cards Look at text
6	6.41	Karen	Looks over at what John is doing					
7	6.42			John	CP	Nah. Clean! Clean!	John	Reaches for 'clean' which is under Pete's arm.
8	6.44						John Ned	Holds card over his text Looks over at John's text
9	6.50			John	CH	His shirt collars were always (.) clean.	John	Points to the target sentence with his finger as he reads
10	6.54			John	N	Nah! Can't be. (1.0) Could be!	John	Goes to put 'clean' back on the table and then changes his mind.
11	6.55			John		Let us see what that one is	John	Reaches past Pete's arm to retrieve a card.
12	6.56			Pete	BP	Always obvious	P, K & N	Look at their texts
13	6.57			Ned		[Changes are obvious]		
14	6.57			John	P	[White (.)White (.)White]	John Ned	Finds and picks up the card marked white and drops 'clean' Looks over at John's text
15	7.01			Ned	CN	His [shirt collars were always <u>white</u>	John	Holds card against his text and points with finger to target sentence
16	7.02	Karen	Glances at John	Karen		[Aye! His shirt collars were always <u>white</u>		
17	7.07	Ned	Scratches his head and yawns	John	SE	Where's that one?	Pete John	Points to the answer sheet Places 'white' on answer sheet
18	7.10			Pete		Do you think that one's obvious. (1.0) The first one?	John	Adjusts position of 'white' on the answer sheet
19	7.14			Karen		The changes are obvious.(0.5) Yeah! Yeah!		

G4.4 Group D transcript- Pristine

Time		Physical		Vocal			Artefactual	
1	2.27			Rob		Normally dad liked everything to be tidy. His shirt collars were always pris-	All	Look at their copy of the text whilst Rob reads. He does not use his finger.
2	2.32			Ali	P	=ORGANISED (1.0) <i>Has to be organised!</i>	Ali	Snatches up organised and places it on his text.
3				Rob		Trousers ironed and shoes polished every day. Every day when we got [back from school]	Rob Ali	Tries to continue to read Holds card and points to the target sentence in his text.
4	2.41	Ali	Glances across at Sam	Ali		[Look! Sam]	Ali Rob Sam	Holds card up and points to text Stops reading and looks at Ali Continues to look at text
5	2.45	Rob & Sam	Look at Ali	Ali	CN	He normally [liked everything to be tidy	Ali	Reads pointing to text with his finger
6	2.47			Sam		[I KNAA MAN! I <u>KNAA</u> ::!		
7	2.49			Ali		WELL <u>DO</u> IT THEN!		
8	2.52			Sam		WELL PUT IT IN THEN!		
9	2.54	Rob	Laughs	Rob	SE	Just put it on!	Rob	Takes card from Ali and places it on sheet.
10	2.55	Ali	Looks at Sam	Ali		But we haven't even [discussed it		
11	2.56			Rob		[from school he'd ask Jade and [I how our day had been and help us with our homework].	Rob	Resumes reading without waiting for Ali to stop talking, pointing to each word with finger as he reads.
12				Sam		[IT DOESN'T MATTER, COS WE KNOW WHAT IT IS]	Sam	Adjusts position of 'organised' on the answer sheet and then points to it
13	2.59	Ali	Ali Rolls eyes then pull a face at Sam					
14	3.00			Ali		OK Mr clever clogs!	Ali	Drums table and scowls at Sam.
15	3.02			Sam		YOU'RE ON RECOR::D!		
16	3.05	Ali	Smiles and waves at camera.					

G5 Distributed enactment- Conscience (4.2)

G5.1 Group A transcript- Conscience

Time		Physical		Vocal			Artefactual	
1	3.11			Jill	S	Right(1.0) [I struggled	Jill	Reads from text
2	3.14	All	Look across at Group C who are having a noisy argument	Sam		[NO MAN!	Jill	Reaches for the answer sheet for 'conscience'
3	3.16	Jill	Looks across at group C and turns to Kim	Betty	P	It could be (2.0) [seatbelt	Betty	Looks at text and then at cards
4	3.18	Jill	Makes eye contact with Kim	Jill		[]		
5	3.28	Fay	Leans across to see the cards				Jill Betty Fay	Shuffles and orders papers Continues to scan her text Strains to see the cards
6	3.29						Fay	Picks up 'Ouch and places it on the answer sheet for 'Eureka' which is in front of her
7	3.31	J&K	Turn towards Fay.	Jill		How do you know that one's yours?		
Group work on Eureka and unsuccessfully try to resolve distraction, then return to 'conscience'.								
8	4.19	Jill Fay	Nervously bang her fist against her mouth as she speaks Cranes her neck to see what is happening	Jill		It's like (0.5) You get distracted		
9	4.21	Kim	Looks across at Betty	Kim		Kim I know what it means but what one is it?	Fay	Leans even further to look over Kim's shoulder so she can see the cards
10	4.25			Betty	P	Betty Like (.) it could be seatbelt		
11	4.30				CH	I struggled with my seatbelt (1.0) as we sang happy songs and told jokes.		
12	4.33			Kim	F	Where?		
13	4.35	Kim	Slumps, resting her chin on her chin on her hand.	Betty	CH	I struggled with my seatbelt as we sang happy songs and told jokes.	All	Look at text
14	4.40	Kim	Frowns	Kim	F	But on number three (1.0) But we had our (0.5) It was a welcome distraction FROM MY TROUBLES!	Kim	Points to text emphatically as she reads each word
15	4.48	Betty	Makes eye contact with Kim and smiles.	Betty	F	We're not on that one. We're on this one.	Betty	Points to her copy of the text
16	4.52	Jill	Sits back	Jill	F	You are on the <u>first</u> one man!	Jill	Holding her answer sheet in front of her she scans the cards. Slaps her copy of the text
17	4.55	Kim	Smiles to herself	Kim		Oh. (...) I thought we were here	Kim	Points to text
18	5.01	Kim	Leans across to look at Betty	Jill	CH	With my seatbelt as we sang happy songs	Betty	Turns to look at Jill's copy of the text
19	5.07				RP	Could be seatbelt		
20	5.10			Kim	RP	It could be		
21	5.11			Jill	SE	Number two		
22	5.12			Betty	CP	Or I struggle with my (2.0) tent as we sang happy songs and told jokes.		

Time		Physical		Vocal			Artefactual	
23	5.17			Jill	CG	That one's not there. Tent's not there.	Jill	Motions with hand towards the cards
24	5.18			Betty	D	Betty Yeah! Tent	Betty	Points to text.
25	5.21			Jill	CG	Were they in the car though?		
26	5.24	F & K	Watch Jill as she reads		S	I struggled with my (2.0) tent as we	Jill	Points to text with finger as she reads
27	5.28	Jill	Holds chin and looks into middle distance		D	They <u>were</u> on holiday.		
28	5.32			Kim	CI	Yeah! A CAMP!	Kim	Reaches across and points to the word on Jill's copy of the text.
29	5.35	Jill	Nods and turns to Betty	Jill	RP	It <u>must</u> be tent then		
30	5.39				SS	If we keep them both the:::re right	Jill	Puts 'tent' on answer sheet alongside 'seatbelt' then points to both cards
31	5.41					No (.) We cannot.	Jill Betty	Doesn't remove card Puts hand on answer sheet
32	5.45	Jill	Looks across at Fay and tries to make eye contact		RP	Shall I just put tent? (.) And then		
33	5.51	Jill	Looks into the middle distance as she speaks		J	If you're on a camp you need a tent with a camp.	Jill	Absent minded taps 'tent' with finger then looks at text
34		Jill	Looks at Betty	Betty	CH	I struggled with my tent as we sang happy songs and told jokes.	Betty	Reads from text. The others follow on their texts
35	6.02	Fay	Leans back and attempts to make eye contact with Betty.	Jill		()	Fay	Points to her copy of the text
36	6.05	Jill	Looks at Fay	Fay	CG	They're already <u>off</u> the coach when it says that cos	Fay	Points to her copy of the text
37	6.06	Jill Fay	Stands up and leans back to she can see Fay and tries to make eye contact Looks at Betty		J	Cos they're getting their computer games and their own pets		
38	6.12			Betty	N	No	Betty	Reads from text
39	6.13				Jill	Makes eye contact with Kim		
40	6.21			Jill	RP	Right! (0.2) I think it's tent.		
41	6.22			Betty	RP	Betty Uh huh!=		
42	6.24	Fay	Nods but says nothing	Kim	RP	Same		
43	6.25			Jill	SE		Jill	Removes seatbelt

G5.2 Group B transcript- Conscience

Time		Physical		Vocal			Artefactual	
1	3.59						May	Finishes reading the first paragraph
2	4.40						May & Sue Eve	Look at cards Looks at her copy of text
3	4.04			Sue	F	This one=	Sue	Points to 'conscience' in her copy of the text
4	4.05	Eve	Stares into middle distance	May	F	= conscience	May	Looks at cards
5	4.07			Sue	S	I struggled with my=		
6	4.09			May	S	= conscience		
7	4.10			Sue	S	I struggled=		
8	4.11	Sue	Looks at May	May	S	=with (...) my	May Eve	Looks at cards Looks at text then at cards
9	4.14						May	May stands up to get a better view of the cards
10	4.17			May	P	Experience	Eve	Looks up from text to look at cards
11	4.21	May	Props her head on hands but remains standing	Sue	CP	Seatbelt	Sue May & Eve	Picks up 'seatbelt' and offers it to May. Read text to themselves
12	4.23	Sue	Hunches and lowers head towards table.			Heh heh!	Sue May & Eve	Continues to hold card. Read text
13	4.25	May	Looks up from text but does not make eye contact with Sue	May	RP	It might actually be seatbelt	May Eve	Looks at cards and then at text Glances across at cards
14	4.30	Eve	Begins to watch May and Sue.				May	Picks up 'experience' and places it on her copy of the text.
15	4.32	Sue	Looks at May				May	Looks at card and text but says nothing
16	4.36			May	CH	I struggled with my exp	May Eve & Sue	Reads from text Look at May's copy of the text
17	4.37				N	No.	May	Places 'experience' with the other cards.
18	4.39				CH	I struggled with my <u>seatbelt</u> as we sang happy songs and told jokes.	May	Takes 'seatbelt' off Sue and places it on her copy of the text.
19	4.45	Sue	Sue Leans across the table to make eye contact with Lily	Sue	AP	Do you think it's seatbelt	May	Continues to look at text
20	4.47	Eve	Makes eye contact with Lily and nods	May	AP	Seatbelt (...) Seatbelt?	May	Waves card briefly at Eve and Lily
21	4.48	May	Glances at camera		SE		May	Places 'seatbelt' on the answer sheet.

G5.3 Group C transcript- Conscience

Time		Physical		Vocal			Artefactual	
1	2.02			Sam	CL	Constant?		
2	2.03			Roy		The farm was=	Roy	Begins to read paragraph 2
3	2.04	Ned	Stretches and yawns	Sam	F	=Wait there! Wait there. We have to work out the first one		
4	2.05						Roy	Picks up the answer sheet for conscience and places it in front of himself.
5	2.06			Sam	CL	Con (0.5) con		
6	2.11	Pete	Looks at Sam	Pete		You've got two so ()	Roy	Roy Stands and leans over so he can see the cards. Continues to stand throughout.
7	2.13	Pete	Slumps with head resting on left hand					
8	2.15			Sam	CL	Constant? Constance?	Pete	Pete places a hand on one of the cards.
9	2.17			Pete	P	Too late?	Roy	Looks at text
10	2.18	Sam Pete & Ned	Uses a sarcastic tone Smile at Sam	Sam	N	Nah. I struggled with my too late?	Roy	Looks at cards
11	2.22						Pete	Puts finger on 'Oh No!'
12	2.23			Pete	P	Oh no? (...) Oh no?		
13	2.26	Sam Pete	Uses a sarcastic tone Laughs loudly	Sam	N	Nah! I struggled with my <u>oh no</u> ?	Roy	Roy reaches across and picks up a card
14	2.29			Ned	P	I struggled with my (.5) guilt?	Ned	Frowns at cards
15	2.32			Sam	P	I struggled with my (0.2) <u>journey</u> as we sang happy songs and told jokes	Roy	Puts card down
16	2.34			Pete	N	NO! NO!		
17	2.35				CP	TENT!	Pete	Picks up 'tent' and shows it to Sam
18	2.36	Sam Ned	Uses a sarcastic tone Looks at Sam and laughs	Sam	N	I struggled with my <u>tent</u> as we <u>sang</u> on the bus?	Pete	Puts down 'tent' and looks at cards
19	2.40	Ned & Roy	Look at Pete	Pete	P	Seatbelt?	Pete	Picks up 'seatbelt' and shows it to Sam
20	2.42			Roy	RP	Aye. Seatbelt		
21	2.43	Roy	Roy Looks at Sam and makes motion like someone struggling with a seatbelt		J			
22	2.45			Sam	CH	I struggled with my <u>seatbelt</u> as we sang our hap Heh he!		
23	2.49				BP	I struggled with my unsuccessfully		

Time		Physical		Vocal			Artefactual	
24	2.52	Ned	Looks at Sam and laughs	Pete	P	That?	Pete	Picks up card and shows it to Sam
25	2.53			Sam	N	NO::: MAN!		
26	2.55				YOU'VE GOT TO WORK IT (..) YOU'RE JUST GUESSING! YOU'RE LIKE A TOO::L!	All		
27	3.01	Ned	Frowns and scratches his head	Pete	P	A long way?	Pete	Picks up 'a long way' and shows it to Sam
28	3.02				S	Right so (2.0) I struggled with my=	Pete	Puts card down
29	3.04			Roy	N	= A LONG WAY? (0.5) YOU <u>TIT!</u>		
30	3.07				() seatbelt!			
31	3.10	Roy	Looks at Sam		BP	Sadness		
32	3.14	Ned	Watches Pete	Pete	P	Could it be?		
33	3.16	All	Look at Sam	Sam	RP	Guilt?		
34	3.18	Ned	Tries to make eye contact with Sam	Ned		That's what I said	Pete	Puts his card down
35	3.21	All	Look at Sam	Sam	A	Guilt's like (1.) []	Pete	Picks up 'guilt'
36	3.24			Ned	A	[LIKE YOU'VE DONE SOMETHING WRONG AND YOU=		
37	3.28			Sam	A	= I WISH I'D NEVER DONE THAT (..) I WISH I'D NEVER DONE THIS.		
38	3.31	Roy	Looks at Pete	Ned		WELL PUT IT ON THEN YOU DICK		
39	3.32							
40	3.34	Roy Ned	Walks off camera Laughs at Roy	Roy		YOU PERVERT!		
41	3.38			Pete		I can't put it there you knaa!	Pete	Stretches towards answer sheet to demonstrate he can't reach it.
42	3.42				SE			Sam

G5.4 Group D transcript- Conscience

Time		Physical		Vocal			Artefactual	
1	1.15						John	Finishes reading the first paragraph
2	1.18			Jim	P	My tent	Jim	Has the cards laid out in front of him. This means he has to hold his text up in front of him throughout. He scans the cards.
3	1.19			Ali	F	Wait! We doing this one?	Ali	Points at paragraph one.
4				Rob		Erm.	Rob	Points at Ali. Looks down at text
5	1.21				S	When I struggled [with my	Rob	Reads from text pointing with finger
6	1.22	Jim	Tries to make eye contact with Rob	Jim	F	[We're doing (.) We're doing number two.	Jim	Points to his text and prepares to read
7	1.23			Rob	F	Aye but we're doing this	Rob	Points to paragraph one in his text
8	1.25			Jim		Right	Jim	Looks at text
9	1.28			Rob	P	As I [struggled with my sadness	Rob	Looks at cards
10	1.30			Ali	S	[our families, our computer games and our pets... I struggled with my=	Ali J&J Rob	Reads from text Look at text Looks at cards
11	1.33	Rob	Tries to make eye contact with Ali	Rob	RP	= sadness		
12	1.39			Ali	CH	<i>I struggled with my (0.5) sadness</i>	Ali Others	Reads Look at cards
13	1.43	Jim	Makes eye contact with Ali	Jim	N	No, it couldn't be sadness		
14	1.44				CP	I think it's (0.5) tent=	Jim Rob John	Looks at cards Looks at cards Looks at text
15	1.45			Rob	N	=No! It wouldn't be <u>tent</u> !	Jim	Touches 'tent' but doesn't pick it up
16	1.46			Jim		Look! Look! Read it properly	Jim	Waves his text at Ali as a gesture for him to read.
17	1.47			Rob	J	If they're in the car!		
18	1.48	Jim	Tries to make eye contact with Rob	Ali	CH	I struggled [with my <u>tent</u> !	Ali John	Reads from the text Reads from the text
19	1.49			Jim	CG	[W (.) W(.) Where's it say he's in the car?	Rob	Looks at text

Time		Physical		Vocal			Artefactual	
20	1.52	Jim	Continues to try and make eye contact with Rob	Ali	CH	I struggled with my (1.0) tent as we (0.5) sang our happy songs	Ali Rob	Reads from the text Looks at cards
21	1.59	Jim	Makes eye contact with Ali	Jim	D	W (.) W(.) W(.) What do you struggle with? (0.5) It'd be (..) Like it's heavy	Rob & John	Look at text
22	2.01	Jim	Jim motions to indicate a strap over his shoulder than bangs fist twice on the table					
23	2.03			John	CH	I struggled with my <u>sadness</u>	John	Uses his finger as he reads
24	2.06	Rob	Tries to make eye contact with Ali	Rob	D	Sadness makes more sense	Jim	Looks at text
25	2.08			Jim	CH	I struggled with my sadness as we [sang our happy] songs	Jim	Reads then looks at cards
26	2.10			Ali	CP	[I've got it!]	Ali	Taps his finger on 'I've got it' and then looks at text.
27	2.13	Ali	Looks up at Rob whilst reading		N	No	John	Looks at text
28	2.15				S	I struggled with my (..)	Ali	Reads then looks at cards
29	2.16	Rob	Tries to make eye contact with Ali	Rob	BP	Or it could be [guilt	Ali	Looks at cards
30	2.17			Jim	S	[I struggled with my=	Jim	Holds text in front of his face as he reads
31	2.22	Ali John	Glances at Rob Looks at Ali	Ali	P	= <i>seatbelt</i>	Ali	Points to 'seatbelt'
32	2.23			Rob	N	No. Not seatbelt. Heh heh!	All	Look at cards
33	2.25			Ali	SE	Sadness	Ali Rob	Reaches for 'sadness'. Points to it
34	2.26			John	BP	Experience!	Ali	Puts sadness on the answer sheet but continues to hold it
35	2.29	Jim	Tries to make eye contact with Ali	Jim	CG	NO MAN! READ IT PROPERLY!		
36	2.30			Rob		He did!		
37	2.33			Ali	CH	I struggled with my [sadness as we	Ali	Continues to hold 'Sadness' over the answer sheet as he reads
38	2.34	Rob	Makes eye contact with John	Rob		[John! You draw that. (1.0) Sadness.		

Time		Physical		Vocal			Artefactual	
39	2.37	Jim	Makes eye contact with Ali	Jim	N	It doesn't make sense though.		
40	2.39				CL	What does that say?	Jim Rob	Points to 'unsuccessfully' Looks at cards
41	2.42			Ali	CL	Unsuccessfully	Ali	Pulls 'unsuccessfully' towards him so he can see it
42	2.43			Rob		Unsuccessfully		Puts unsuccessfully back with the other cards
43	2.44			Jim	P	AYE! THAT MAKES [SENSE! READ IT! LOOK!	Jim Ali	Slides 'unsuccessfully' back towards Ali Puts hand on 'unsuccessfully'
44	2.47	Rob	Looks at Ali and then points at him.	Rob		[]		
45	2.48	John	Tries to make eye contact with Rob	John		[Er (0.2) [I'll draw] a (.) sad face		
46	2.50	Ali John	Makes eye contact with Jim Looks at Jim	Ali	N	IT DOESN'T MAN!		
47	2.52				CH	I struggled with my <u>unsuccessfully</u> as we sang our happy songs and told jokes	Ali R& J	Reads then looks up to make eye contact with Rob Look at text
48	2.55	John	Stands up	John		John I'll get the pencils		
49	2.57	Ali	Makes eye contact with Jim	Ali		Jim. You think that things that don't make sense make sense	Jim	Reads text and mutters
50	3.01	Rob Ali	Exchanges a glance with Ali Taps table with knuckle				Ali	Slides 'unsuccessfully' back with the other cards.
51	3.06	John	Returns with teacher and pencil	Teacher		Alright?		
52	3.07			John		Aye	Ali	Looks at text
53	3.08			Jim	S	I struggled with my	Jim	Continues to hold text to his face
54	3.10						John Jim	Distributes pencils. Holds text to his face and mutters as he reads. Looks down and begins to sort through the cards.
55	3.12			Ali	F	Who's reading number two?	Jim	Is thrown a pencil and picks it up, distracting him from the cards
56	3.13			Rob		Jim		
57	3.15	John & Rob	Make eye contact with Ali	Ali		Right! So John, you're going to do number one picture, I'll do number three	Jim Ali	Continues to hold text to his face Points to John with pencil

Time		Physical		Vocal			Artefactual	
58	3.20	Jim	Looks at John	John		Do I have to show (0.5) do I have to show a sad face?	John	Motions with his pencil towards the answer sheet
59	3.24	Rob	Puts head in hands	Rob		We'll figure it out at the end		
60	3.26			Ali		Right! Jim! Read!	All	Look at text
61	3.27			Jim		The farm was brilliant	Jim	Starts to read para two. Others follow on their copy of text

G6 Isolated enactment by Group C- Distraction (4.2)

G6.1 Group A transcript- Distraction

Time		Physical		Vocal			Artefactual	
1	4.00	Kim	Smiles	Kim	F	Right. We're doing (2.0) Distraction now.		
2	4.02			Betty	A	Distraction is like		
3	4.04	Jill	Holds hands out in front of her palms up	Jill		You get distracted (0.5) Yeah?		
4	4.08	Fay	Tries to make eye contact with Jill	Fay		Shall I go and get the play dough?		
5	4.10	Jill	Stares ahead and shakes head	Jill		Not yet		
6	4.16			Kim	BP	Would it be (0.5) unsuccessfully?		
7	4.18			Betty	S	It was		
8	4.21	Jill	Drums fist against her mouth	Jill	A	[Like (1.0) When you get distracted	Fay	Begins to lean over and crane her neck so she can see cards
9				Kim		[I know what it means but		
10	4.25			Betty	P	Betty Like (.) it could be seatbelt		
11	4.30				CH	I struggled with my seatbelt (1.0) as we sang happy songs and told jokes.		
12	4.33			Kim	F	Where?		
13	4.35	Kim	Slumps, resting her chin on her chin on her hand.	Betty	CH	I struggled with my seatbelt as we sang happy songs and told jokes.	All	Look at text
14	4.40	Kim	Frowns	Kim	F	But on number three (1.0) But we had our (0.5) It was a welcome distraction <u>FROM MY TROUBLES!</u>	Kim	Points to text emphatically as she reads each word
15	4.48	Betty	Makes eye contact with Kim and smiles.	Betty	F	We're not on that one. We're on this one.	Betty	Points to her copy of the text
Group turn to solving other words								
16	7.12	Fay	Leans towards Kim	Fay		What's Kim's?		
17	7.14	Kim	Leans towards Fay and makes eye contact then turns her back on her.	Kim	F	Distraction!	Kim	Slaps her copy of the text in irritation
18	7.17	Jill	Flops head forward in frustration	Jill		Could it not be distance?	Jill	Points to 'in vain' in her copy of the text.
19	7.22			Kim		Look (0.5) Where's distance?	Kim	Picks up 'distance' and places it next to her text
20	7.24	Jill	Frowns at Kim.			The work we had=		
21	7.25	Jill	Glances at Kim	Jill		= not for <u>you</u> !		
22	7.26			Betty	S	The work we had to do was hard but it was a welcome	Fay	Checks her copy of the text
23	7.30	Jill	Rubs her cheek in frustration	Kim		No! I'm not on about mine!	Kim	Waves 'distance' towards Betty in frustration.
24	7.32			Betty	P	A welcome escape from my troubles		
25	7.35				SE			
							Betty	Passes escape to Kim who puts it on the answer sheet.

G6.2 Group B transcript- Distraction

Time		Physical		Vocal			Artefactual	
1	6.31			Eve	S	The work we had to do was hard but it was (2.0) a welcome distraction from my troubles.		
2	6.40						Eve	Looks across the table at cards
3	6.43			May	P	Escape	May	Reaches across and picks up 'escape' and places it against her text. Reads target sentence in silence.
4	6.46	Sue	Sue looks at May				Eve	Retrieves the answer sheet from under her copy of the text
5	6.49	May	Finishes reading and makes eye contact with Sue	May	CH	It was a welcome escape from my troubles.		
		Eve	Makes eye contact with Lily					
6	6.53			Sue		Yeah		
7	6.55	May	Seeks eye contact with Lily		AP		May	Shows 'escape' to Lily
8	7.00	Eve	Looks into middle distance		SE		May	Puts card on Eve's answer sheet.

G6.3 Group C transcript- Distraction

Time		Physical		Vocal			Artefactual	
1	8.13			Pete	F	It was a welcome distraction		
2	8.15	Roy	Looks across at Group D who are arguing loudly. He prepares to throw something across the room at them					
3	8.24	Roy	Throws the object. He and Sam then get up and walk off	Pete	A	Distraction is like (1.0) Put off something.		
Pete and Ned wait for Sam and Roy to return. They reappear with the researcher on the pretext that they want their work checked. Researcher leaves at 9.15								
4	9.19			Sam	F	What about the second paragraph?		
5	9.21			Pete	P	Distance from my troubles	Pete	Holds up 'distance' so Sam can see it.
6	9.26			Sam	N	[No]		
7				Roy		[Aye]	Roy	Reads text silently using finger then looks at cards.
8	9.28			Pete	P	Or it could be escape	Pete	Continues to hold 'distance' and puts hand on 'escape'.
9	9.30			Sam		Look at that !We've got brand new stuff!	Sam	Empties a new pot of play dough onto the table and starts to play with it.
10	9.33	Pete	Watches Sam					
11	9.38						Pete	Hurriedly puts 'distance' on the answer sheet and then reaches across the table and grabs some play dough
12	9.43	Ned	Frowns and tries to make eye contact with Pete	Ned	CG	Distance?		
13	9.47	Ned	Tries to make eye contact with Pete. Pete ignores him.		CH	A welcome distance.	Ned	Reads from text. All the others are playing with the dough.
14	9.50	Ned	Glances at Pete. Pete ignores him.		CH	A welcome distance (1.0) from my troubles		
15	9.52	Ned	Stares ahead	Ned	I haven't even read mine yet.			
Ned reads the last paragraph whilst Pete plays with the play dough and Sam and Roy chat.								

Time		Physical		Vocal			Artefactual	
16	11.13						Ned	Finishes reading and looks at cards for a solution to the word Eureka
17	11.15			Sam	F	Distraction.	Sam Pete & Roy	Looks at his own copy of the text. Play with dough
18	11.23				A	Oh! That means (7.0) Wait. Wait there.		
19	11.26				S	But it was a welcome distraction from my troubles	Sam	Reads from text
20	11.30				RP	So it was (3.0) Escape.	Sam Roy	Looks at cards Reaches across for some play dough
21	11.36				CN	A welcome escape from my troubles	Ned	Looks at his copy of the text
22				Pete	CL	Escape?	Pete Ned	Looks across at cards Picks up 'ouch' as a solution for Eureka and waves it over the text as he reads his target sentence to himself
23	11.43	Sam	Nods whilst he reads	Sam	CN	A welcome escape (2.0) from <i>my</i>	Sam	Reads from text and then is distracted by a lump of dough he is trying to retrieve from the pot.
24	11.47	Pete	Glances at Sam		SE		Pete Ned	Replaces 'distance' with 'escape' on the answer sheet. Continues to hold 'Ouch!' and looks across at the remaining cards

G6.4 Group D transcript- Distraction

Time		Physical		Vocal			Artefactual	
1	8.40			Ali	S	The farm was just what I needed after the last few weeks. The work we had to do was hard, but it was a welcome dis-	Ali	Reads from text and taps pencil against his head as he does so.
2	8.51						Jim	Follows on his copy of the text
3	8.57			Ali	A	Distraction. (.) That means (1.0) Like (1.0) <i>Disturbing ya</i>	Rb&Jn Jim	Look at cards Continues to read from his copy of the text
4	8.59	Rob	Leans forward so he can see what Ali has chosen and frowns	John		<i>Like</i> (0.2) <i>To interrupt</i> (1.0) Like you're putting them off by doing something.	Jim	Now looks at cards
5	9.01				CH		Ali	Picks up 'guilt' and holds it to his forehead as he reads the text
6	9.06			Rob	N	Nah. (1.0) Not guilt	Rob John Jim	Looks at his copy of the text Looks at text Continues to look at cards
7				John		It [doesn't make sense	Ali Rob	Replaces 'guilt' on the table. Looks at cards
8	9.08	Rob	Glances at Jim	Jim		[Work we had to do was	Jim	Hold text up to his face and reads aloud
9	9.12			Rob	P	A welcome (.) <u>escape</u> (1.0) from (.) my troubles	Jim	Continues to read from his copy of the text
10	9.15	Rob	Glances at John then addresses Jim	John	CP	A welcome experience!	John	Points across the table to 'experience'.
11	9.19			Rob	CH	A welcome escape from my troubles	Jim Ali	Continues to read text and does not look up Reads text
12	9.25			John	CH	A welcome experience	John Ali	Continues to point at card Reads text
13	9.27	Jim	Looks at Rob	John	SP	Or escape		
14		Ali	Leans back on his chair	Jim	N	It's not [escape		
15	9.30	Rob	Frowns at Ali	Ali	A	[Distraction doesn't mean experience	Jim	Continues to read
16	9.34	John	Rubs his forehead in frustration	Rob	J	You <u>escape</u> from your troubles.	Jim	Continues to read
17	9.38			Rob			Ali	Reaches for escape and then changes his mind
18	9.47	Rob	Seeks eye contact with Ali	John	N	Well it could be (0.2) No (.) It's not experience	Jim	Continues to read
19	9.57			Rob	J	Escape means he's got away from it and he's got away from the cat (0.5) The cat's his trouble. (.) Escape means he's got away.	Ali Jim	Holds up 'escape' in front of his face and stares at it. Continues to read
20	10.03			John	RP	Aye. Escaped	Ali	Can't reach the answer sheet John tries to help him.
21				John	SE		Ali	Places escape on answer sheet
				Jim	CH	Wait there!	Jim	Reads his text silently. The others pause then continue with the story.

G7 Isolated enactment by Group D- Pulverised (4.4)

G7.1 Group A transcript- Pulverised

Time		Physical		Vocal			Artefactual	
1		Jill	Claps hand	Jill		Right!		
2	3.24	Betty Kim	Seeks eye contact with Kim Points to herself and smiles when she hears her name.	Betty	SP	I think <u>Kim's</u> is either killed or run over		
3	3.28	Jill Betty	Claps hand again Smiles at Jill	Jill		KILLED (.) AR::::GH!		
4	3.30			Betty	CN	Cos it said []	Betty	Points to text and reads
5		Jill	Turns to Betty and makes eye contact	Jill		[]	Jill	Points to her own copy of the text
6	3.32	Fay	Motions to Alice to move camera so it is focussed on Kim, Jill and Betty. Camera moves so that Fay is no longer in shot.	Fay		No. just turn it		
7	3.38			Betty	CI	By a passing petrol tanker		
8							Jill	Picks up killed
9	3.30			Kim		Well! Howay!	Kim Jill	Retrieves the answer sheet Holds up card to the camera
10				Alice		You's are on camera		
11				Jill		I know		
12	3.36			Alice	SE	Heh heh!	Jill	Places 'killed' on the answer sheet with a flourish.
13	3.38				CH		Kim	Takes 'killed' off the answer sheet and places it next to her text and reads
14	3.38	Betty	Gets up and leaves	Betty		<i>I'll get the pencils</i>		
15	3.45			Kim	CI	The cat was dead	Kim	Reads aloud.
16	3.50			Kim	N	NO!	Kim	Points to a line in the text and looks at the card
17	3.50			Kim	J	IT'S NOT KILLED BECAUSE LOOK (.) IT SAYS DEAD.	Fay	Picks up 'hypnotised' and places it against her copy of the text
18		Betty	Returns with pencils for the next activity	Jill	CI	Dead!	Jill Kim	Looks at Kim's copy of the text Continues to point at text
19	3.52	Fay	Makes eye contact with Betty	Fay		Betty! What does that say?	Fay	Holds up 'hypnotised' so Betty can see it.
20	3.55	Jill	Emphasises words by nodding in Kim's direction.	Jill	D	<u>YES!</u> COS IT HAD BEEN KILLED BY [THE [PETROL TANKER!	Jill Kim	Points to her copy Continues to point at her text And looks at Jill's copy
21	3.56			Betty		[Hypnotised=	Betty	Hands Kim a pencil. Kim takes pencil and replaces 'killed'
22	3.58			Fay		That's right!		

G7.2 Group B transcript- Pulverised

Time		Physical		Vocal			Artefactual	
1	4.32	Eve	Looks across to see what May is doing.	Eve	S	In the headlights we could see (..) that the cat was dead (1.0) pul (..) ver (..) ised=	Eve May	Reads slowly from the text Picks up 'run over' and places near her text
2	4.44			May	BP	=I want to try run over		
3	4.46	Sue	Turns to May and makes eye contact	Sue		()	May	Goes to pick up 'run over' then changes her mind. Looks at text
4	4.53				CP		Sue	Picks up 'crushed' and puts it on May's copy of the text.
5	5.00			May	CH	In the headlights we could see that the cat was dead (0.2) <u>crushed</u> by (.) by a (..) passing pat (.) patrol tanker		
6	5.12			Sue	RP	Yeah. Crushed		
7	5.14						Sue	Passes card to Eve without making eye contact.
8	5.16	May	Slams hand hard on table for emphasis	May		Crushed it <u>FLAT!</u>		
9	5.18	Sue	Shivers convulsively	Sue	SE	Heh heh!	Eve	Places 'crushed' on answer sheet

G7.3 Group C transcript- Pulverised

Time		Physical		Vocal			Artefactual	
1	6.35			Ned		In the headlights we could see that (..) the cat was dead	Pete & Ned	Look at text
2	6.40	Roy	Has placed himself off camera					
3	6.41	Ned Pete	Looks at Roy and laughs Glances at Roy.	Roy		They killed the cat	Pete	Continues to look at text
4	6.42			Ned	CL	Pulver::sed (1.0) pul(.) ver(..) riss(..) ed=		
5	6.48			Pete	CL	= Pivoted		
6	6.50	Ned	Looks at Roy and laughs	Roy		Perverted!	Pete	Studies the cards
7	6.52			Ned	CL	Pul(.) ver(.) side (2.0) pul (.) ver (.) rised (1.0) pul(.) rer	Pete	Alternates between looking at text and looking at cards.
8	6.58	Ned	Leans back and laughs in frustration					
9	6.59			Pete	P	RUN OVER!		
10	7.00				SE		Pete	Picks up 'run over' and puts it on answer sheet
11	7.02			Ned	CL	Pul (.) rer(..) [sed		
12	7.05	Pete	Slams hand hard on the table	Pete	RP	IT'S RUN OVER MAN!		
13	7.07	Pete	Looks at Roy	Pete		Right (.) It's yours Roy.		

G7.4 Group D transcript- Pulverised

Time		Physical		Vocal			Artefactual	
1	5.53	Jim	Chews exaggeratedly and scans the room	John		Suddenly there was a screech of brakes and then a crash in the headlights.	John A& R	Leans over the text pointing to each word as he reads it. Look at their copies of the text
2	6.04	Ali	Gives an exaggerated shudder at the word 'dead'			We could see [the cat was dead (0.2) pul (.) risid by a passing patrol tanker	Ali	Points to his copy of the text when John reads the word 'pulverised' but doesn't help him
3	6.00			Jim		[]		
4	6.04	Rob	Looks at John	Rob		Heh heh. The cat's dead.		
5		Jim	Makes eye contact with Rob	Jim		One in the l(0.2) left cheek and	Ali	Looks at cards
6	6.09			Ali	BP	[THREATENED!]	Ali	Reaches across and points to 'threatened' but doesn't pick it up.
7	6.10	Jim	Leans forward and points to each cheek in turn.	Jim		[and one's (0.2) one's in the right cheek	Ali John	Points at text Looks at his copy of text
8	6.11	Ali Rob	Glances at John Smiles at Jim	Rob		()	Ali & John	Look at cards
9	6.16			Ali	N	NO!	Ali	Glances back at text
10	6.17	Rob & Jim	Now turn to look at Ali		CP	HIT MAN! (.) HIT!	Ali	Reaches across and slides 'Hit' over so it is positioned next to his text.
11	6.19	Ali	Looks at Rob and then Jim.	Ali	CI	THE CAT'S DEAD!	Jim	Holds his copy of the text up to his face
12	6.21			John		Aye		
13	6.24			Rob		His plan worked! Heh heh!		
14	6.25			Ali	CN	Hit (0.5) by a passing patrol tanker	Ali	Reads from his text, pointing with finger.
15	6.27	Rob & John	Watch Ali				Ali Jim	Waves card in the air then goes to place it on the answer sheet. Continues to hold text to his face.
16	6.28			Ali	AP	Do you think it's hit?	Ali	Shoves card in John's face so John has to rear back.
17	6.29			John		Aye	Ali	Puts card on answer sheet
18	6.30			Rob	CP	Or it could be killed	Ali Rob	Keeps his finger on 'hit' Puts his finger on 'killed'
19	6.31			John	RP	Aye. Killed		





Time		Physical		Vocal			Artefactual	
20	6.32	Ali & Rob	Make eye contact	Ali	CP	Hit man! Hit!	John Jim	Looks at text Continues to hold text in front of his face
21	6.34			John	CH	Dead, killed	John Jim	Reads from text Continues to hold text in front of his face
22	6.36				CH	Dead, hit		
23	6.40	Ali & Rob	Look at Jim	Jim	CP	GOT RUN OVER!	Jim Others	Continues to hold text in front of his face and puts finger on 'run over' then removes it. Check their copy of the text
24	6.42	Ali & Jim	Make eye contact	John	CH	Dead, run over	John Jim	Reads from text Replaces finger on 'run over' card
25	6.43			Jim	CN	Dead, run over	Jim	Continues to keep finger on card as John reads
26	6.45	Ali	Makes eye contact with Jim	Ali	CP	Hit	Ali	Leaves his finger on 'hit'
27	6.48				CN	Hit by a passing patrol tanker.	Ali	Points to text
28	6.49	Ali & Jim	Make eye contact	Jim	N	No.	Jim	Picks up 'run over' and places it on table apart from other cards
29	6.50						Read it again	
30		Ali Rob	Shrugs in resignation Bangs fist impatiently on table				All	Look at text
31	6.52	Ali	Makes eye contact with Jim when he finishes reading	Ali	CH	Ali In the headlines (.) we could see that the cat was dead (.) <u>run over</u> by a passing p (.) patrol tanker.	Jim	Looks at Ali's copy of the text whilst he is reading.
32	7.00	Ali	Waves hand in the direction of the cards. Glances at Rob when he says 'killed'.		SP	COULD BE HIT AND IT COULD BE erm (0.5) killed		
33	7.05			Jim	BP	Or damaged	Ali	Collects up killed, run over and hit and places them in a group next to his copy of the text.
34	7.06			Ali		IT COULD BE THIS (.) THIS (0.2) OR THIS		
35	7.09	John	Tries to make eye contact with group	John	E	Who votes for run over?		
36	7.13	Jim	Glances at John				Ali & Rob	Look at the cards
37	7.14			Jim	DF	We'll put them all and then decide after	Jim	Starts to collect up the three cards
38	7.16	John	Tries to make eye contact with group	John	E	Who votes for killed?		
39	7.18			Jim		We'll just put it all on and decide after		
40	7.20				SS		Jim	Puts all three cards on the answer sheet
41	7.21	Ali	Looks at Rob	Ali		Read number four.	Rob	Starts to read the next paragraph.

Time	Physical		Vocal			Artefactual			
Group read paragraph four and solve anaesthetised, then return to 'pulverised'									
42	8.24			Ali		Ali Right! (0.2) get your drawings.	Ali	Slaps hand on his copy of the text. Retrieves the answer sheet that he will draw on	
43	8.26			F		WE NEED TO DECIDE KILLED OR RUN OVER OR HIT			
44	8.27	Rob	Looks at Ali and laughs				Jim & John	Look at answer sheet with the three cards on it	
45	8.29	All	Make eye contact with John	John	E	Who votes for hit?			
46	8.31	Rob & Ali	Raise hand		RP				
47	8.33			John	E	Who votes for run over?			
48	8.34	Jim	Raises hand	Jim	RP	Me	Jim	Waves his copy of the text in the air	
49	8.35		No one votes	John	E	Who votes for killed?			
50	8.37			Ali		Right! Two on one on one (.) It's hit			
51	8.39	Jim	Nudges Ali. Ali leans away from Jim.		SE		Ali	Ali removes killed and run over from the answer sheet	
52	8.40			Jim	CP	NO MAN! PUT KILLED!	Ali		Keeps hand on answer sheet
53	8.41			Ali	N	No. It's hit			
54	8.42			Jim	CP	Run over			
55	8.44	Rob	Leans back, away from Jim	Rob	N	NO! IT'S HIT!	Ali		Removes 'hit' from the answer sheet but continues to hold it.
56	8.46	Jim	Tries to make eye contact with the researcher and waves copy of text in the air.	Jim	AP	SIR! SIR! CAN YOU COME HERE FOR A SECOND?			
57	8.48			Rob		IT'S TWO ON ONE!	Ali		
58	8.49			Jim		SO?			
59	8.50	All	Watch Ali	Ali	SE	IT CAN EITHER BE KILLED RUN OVER OR HIT (.) IT'S HIT!	Ali	Puts his finger on each card as he refers to it then replaces 'hit' on the answer sheet.	
60	8.52	Ali	Points to John		RP	It's hit. He voted it (0.5). Three on one.	Jim	Covers the top of his head with the text in frustration	
61	8.54			John		Right! Drawings!	John	Retrieves the sheet he will draw on.	
62	8.56	Jim	Points to each member in turn	Jim	CG	If it's run over right I'll slap of of yours!			

Appendix H Interviews and meetings

H.1 Interviews

H1.1 Group A

GROUP A		
I N T E R V I E W	<p>Two students who were not part of Group A during the sessions join them for the interview task. First is Sam who had alternated between Group D and C. Second is Alice, who had originally been recruited as a participant but was then suspended by the school. The teachers wanted to see if she would benefit from observing how the group, containing several of her friends, talked about reading and how they worked together.</p> <p>Getting organised</p> <p>Perhaps because of the new additions, the group get off to a fractious start. Alice copies what she has seen the group do on previous occasions and used the play-dough to make a picture.</p> <p>Jill – <i>Right! Get all the stuff out then!</i> (Slaps table hard with right hand) (1)</p> <p>Kim – <i>We should. He's started it.</i></p> <p>Jill – <i>I KNOW!</i> (Taps pencil impatiently)</p> <p>Kim – (Nodding towards Alice and Betty) <i>They're making flowers and that.</i></p> <p>Sam – <i>Errgh! That's shit that!</i></p> <p>Jill attempts to organise the group</p> <p>Jill – <i>The reason why we came</i> (moves a sheet to the middle of the table) <i>the reasons why we wouldn't come</i> (moves another sheet) (2)</p> <p>Betty – <i>Alice comes to make flowers, don't you?</i></p> <p>Alice – <i>Aye</i></p> <p>(Jill places the cards for the interview task around the models that Betty and Alice have made so that they are forced to look at them) (3)</p> <p>Jill – <i>Right!</i></p> <p>(Alice destroys her model and makes a space so the group can do the task)</p> <p>Jill – <i>Right! The reason why we're here</i> (bangs fist on the table twice. Picks up a card) <i>Kim thinks that.</i></p> <p>Kim – <i>No! Missing lessons. I think this one</i> (picks up 'missing lessons' and places it on her forehead)</p> <p>Betty – <i>No way... That's... Oh alright, that's a good one.</i></p> <p>Jill (frowns) <i>That you're missing lessons.</i></p> <p>Betty – <i>Yeah, cos I like missing first lesson on some days is actually kinda good.</i></p> <p>Jill – <i>Not on Mondays cos I miss cooking</i></p> <p>Sam – <i>Yeah!</i></p> <p>Betty – <i>Wait! You could write good at the top and bad at the bottom</i> (Throws pencil to Jill) (4)</p> <p>Jill – <i>Making videos... Where's making videos?</i></p> <p>Betty – <i>Making videos is good cos it boosts your confidence.</i></p>	<p style="text-align: center;">1</p>  <p style="text-align: center;">2</p>  <p style="text-align: center;">3</p>  <p style="text-align: center;">4</p> 

GROUP A

INTERVIEW

Sam- *Aye, but watching them is boring.*

Betty- *Aye. Put it on the good one and the bad one.*

(Kim places 'making videos' under 'good')

Betty- *Missing lessons could be in the middle on both sides. Cos it's good missing them and bad missing them.*

Betty- *Getting the answers right is canny good cos it boosts your confidence.*

(No one says anything)

Betty- *We need one that's bad... Like 'boring texts'.*

Jill- *'Texts are too easy'*

Kim- *That one! 'Texts are too hard'. Put 'Eating cookies'.*

Sam- *Put 'Eating cookies' on them.*

Jill- *Is that bad?*

Sam- *No, good!*

Jill- *What about this one?* (Shows Sam 'Being in the library')

Sam- *It's good cos you're away from everyone else.*

Betty (Takes card and places it under 'good') *It's good cos you're in your own little....*

Kim- *What's that one? 'People you can't work with. Bad.*

Jill- *We've got to make that.... You know...* (Points to the diamond shape on the envelope) (5)

Division of labour

Kim takes charge of the diamond representing positive reasons for coming to the sessions and Jill organises the diamond rank of deterrents.

Kim- *I can't I need another one for mine.*

Betty- *Put working in groups*

Kim- *At the bottom.*

Jill- *You's are doing it wrong!*

Kim- *How?*

(Silence)

Betty- *'Working in groups' right, then 'Interesting texts' then put this one at the end (Eating Cookies) cos we don't come here for the cookies.*

Jill- *What about her?*

Betty- *Kim, what do you not like doing?*

Kim- *Reading!*

Jill- *She doesn't like reading.*

Kim- *I HATE reading!*

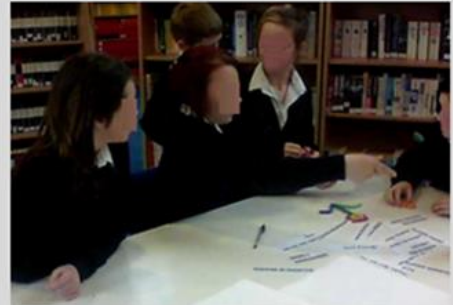
Betty- *Put that on it.*

(Jill writes 'Reading' on a card and places it at the bottom of the diamond) (6)

Betty- *People distracting us!* (Writes on card and places at bottom of the diamond)

Kim- *There!* (7)

5

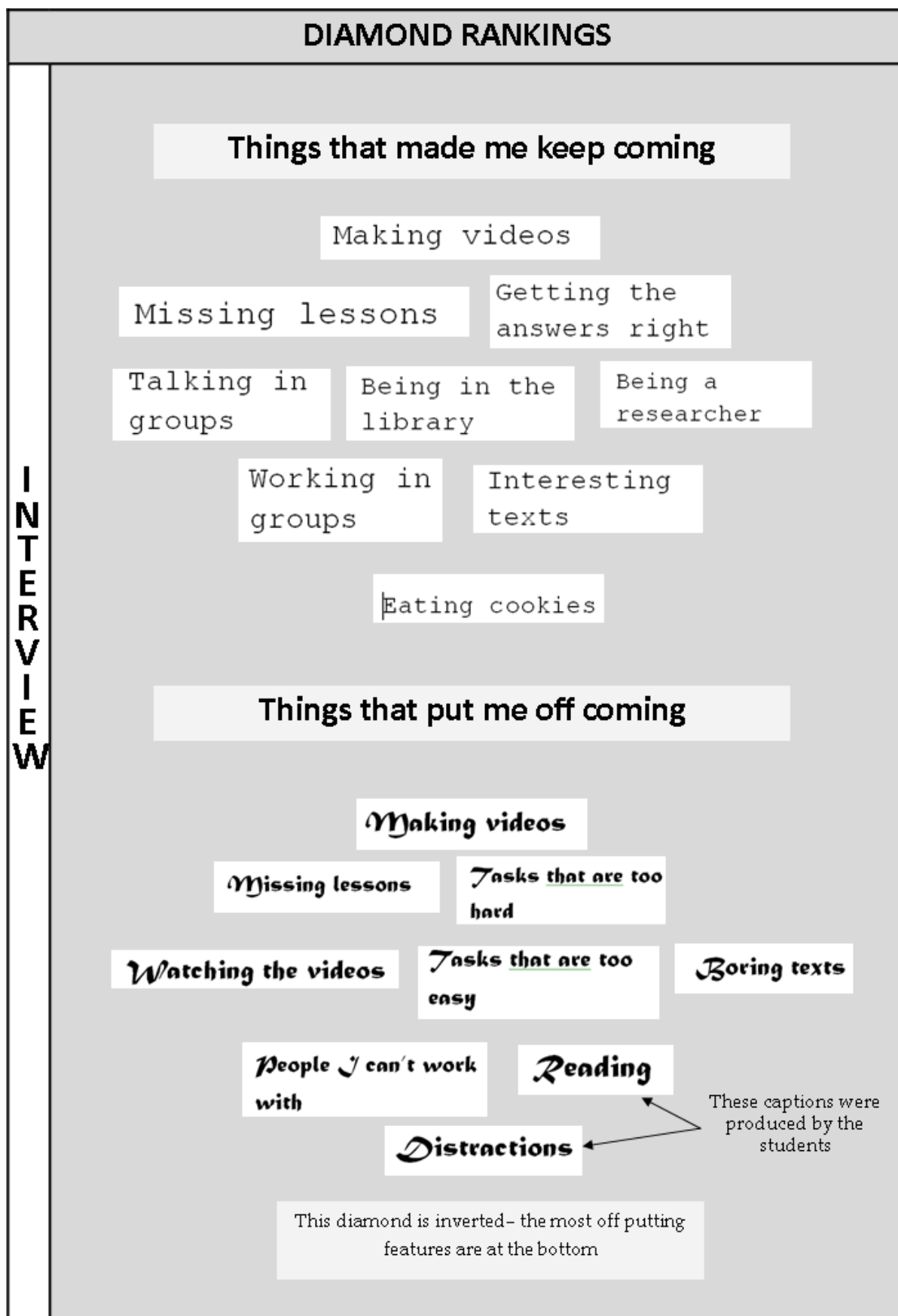


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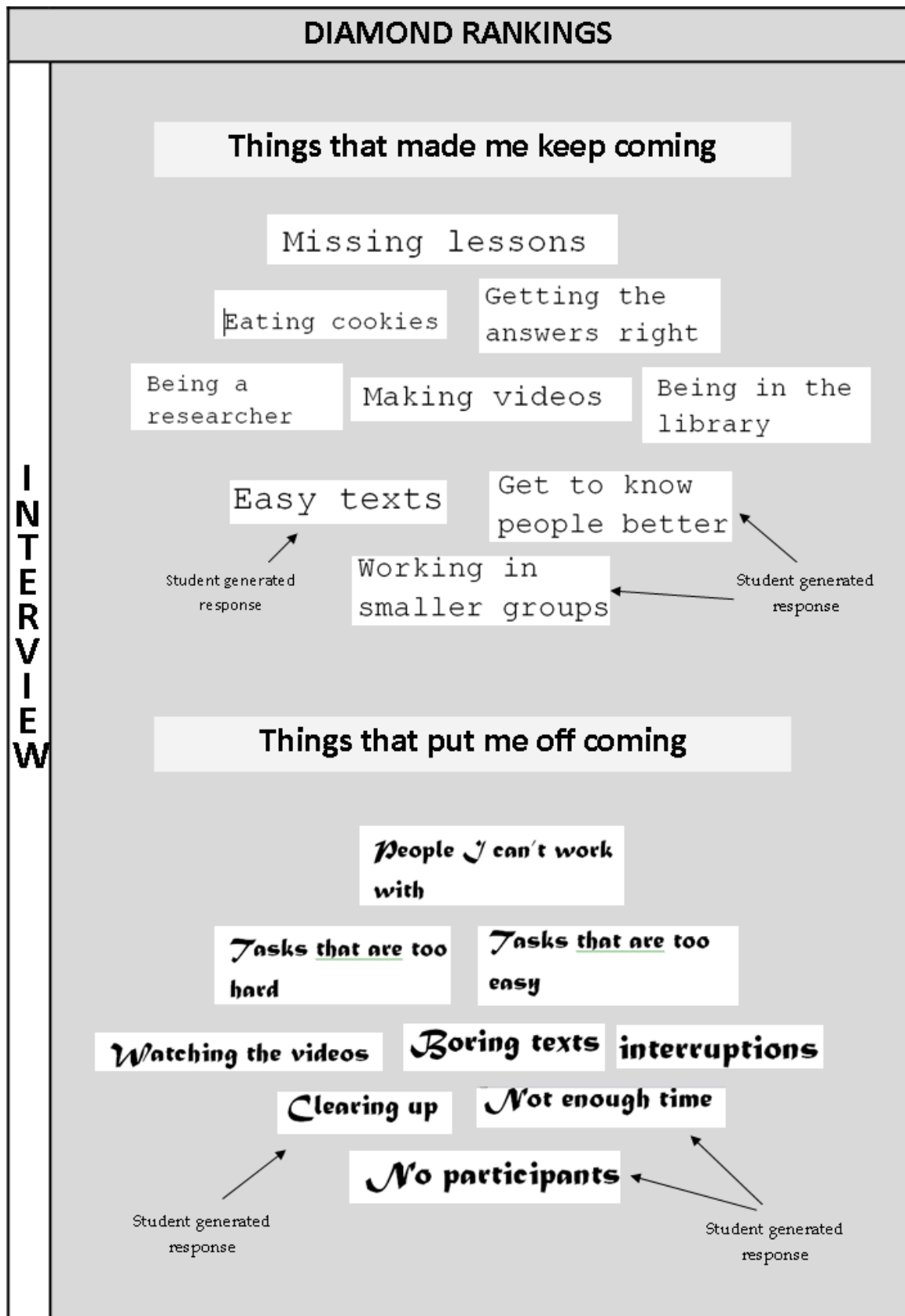


7





GROUP B	
I N T E R V I E W	<p>Ranking the cards</p> <p>May and Sue work as a pair– Lily and Eve are not present. Sue’s role is to propose ideas and ask questions but it is May who decides on the order in which the diamonds are constructed. For the most part, the girls agree on the ranking of the cards with the result that there is little discussion as to why these rankings reflect their experience. Below are the few comments that were made along with the cards that each comment relates to:</p>
	<p>Things that made me want to come</p>
	<p>Eating cookies Both- [Laugh loudly]</p>
	<p>Missing lessons May- <i>Missing lessons is the most important. Would you rather miss first lesson or second lesson?</i></p> <p>Sue- <i>First and second lesson me.</i></p>
	<p>Things that put me off coming</p>
	<p>People I can't work with May- <i>Things that don't work.... people who don't.... One leader.....</i></p> <p>May- <i>I didn't like it at the beginning cos Eve and Lily were messing about, but when Lily wasn't here Eve got on well.... Then we got on well.</i></p> <p>Sue- <i>That's the top one.... Like when Lily used to sit there never reading.</i></p>
	<p>Watching the videos Sue- <i>I didn't really like watching the videos cos they were embarrassing.</i></p>
	<p>No participants Sue- <i>Know what I hate? When people in your group just don't take part.</i></p>
	<p>Resources May- <i>Not enough resources.</i></p> <p>Sue- <i>There is.... Loads [This card was rejected]</i></p>
	<p>interruptions Sue- <i>When people come over and [shouting in back-ground] and when they shout like that.</i></p>



STUDENT MODELS AND COMMENTARY

The girls made two scenes to illustrate their experiences. One shows a group where everyone is reading (1) and the other a group where some members are not taking part (2). The figures in the models are not named after member of the group. Instead they are referred to as 'men' or 'aliens'. It is likely that the term *alien* is used owing to the odd appearance of the models the girls have made. It may be significant that this term is applied to people who do not participate, but this was not mentioned by the girls when they were questioned.

May- *This is people participating. There's a man reading..... There's another man reading.... They all read.*



Sue- *This is when one person is participating. This one's reading, May's man, and this one just sits there doing nothing..... My alien!*



Most of the comments made during construction refer to the appearance of the 'aliens' and the scale of the models. This short sequence is the only reference made to the power struggle within the group:

Sue- *Right....people not taking part. That would be like people just sitting down and like not helping to read*

May- *Well Lily didn't.*

Sue- [Pulls a face showing regret and sadness]- *Yeah.....Cos she had to sit there man* [nods at far right end of table. Girls continue making models] *She wanted to sit there* [nods at May's seat which is in the middle of the table] *right where you're sitting now.* [May grins]. *Cos she was sitting there first* [nods at May's seat] *and you were just left there* [slams hand on far right end of table (3)]



GROUP C

INTERVIEW

The approach of the group towards the interview task reflects their struggles with the designed tasks across the span of the intervention. First, the group do not agree the shape of the diamonds collectively. Roy assembles the diamond for 'Things that made me want to come' and Ned and Pete completed the other diamond. Second, there is a confusion as to the instructions for the task and a preoccupation with presentation rather than discussing their ideas. Finally, there is a preoccupation with the positioning of the camera. In other words, the boys were unable to express their own experiences just as they had struggled to understand the experiences of the character in the story.

Roy- [Helping Pete (1)] *I'm doing the good ones.*

Pete- [Pulls the sheet away from Roy]- *No!*

Roy- *Yes* [Walks over to his sheet, taking some of the cards with him (2)]

Pete- *You don't even know what it is man... you don't know what to do.*

[Ned puts his head on the table]

Pete- *You're supposed to do the squares... the diamond. Yes?*

Roy- *Yes I do. I'm making a diamond you spacko!*

Ned- *Right, what am I meant to do? The bad ones?*

Roy [pointing to his sheet on which he has arranged some cards] *You cannot do that on there. How do you do a diamond? How do you do it?*

Ned- *I don't know...* [Sees the diagram provided as guidance] *Ah! You put that one here* [moves card] *and then two there.... To make a diamond* [moves cards]

[Roy then moves the camera so it just includes Ned and Pete. The Roy comes into shot]

Ned [counting the cards (3)] *We're missing one.*

Roy [counts the cards on the diamond he has made]. *There's three blank ones... well then write one you tit. [Passes Ned a pencil]*

Ned- *I don't know what to write though.*

Pete- *Roy, you write one right, and if I write one we've all done one.*

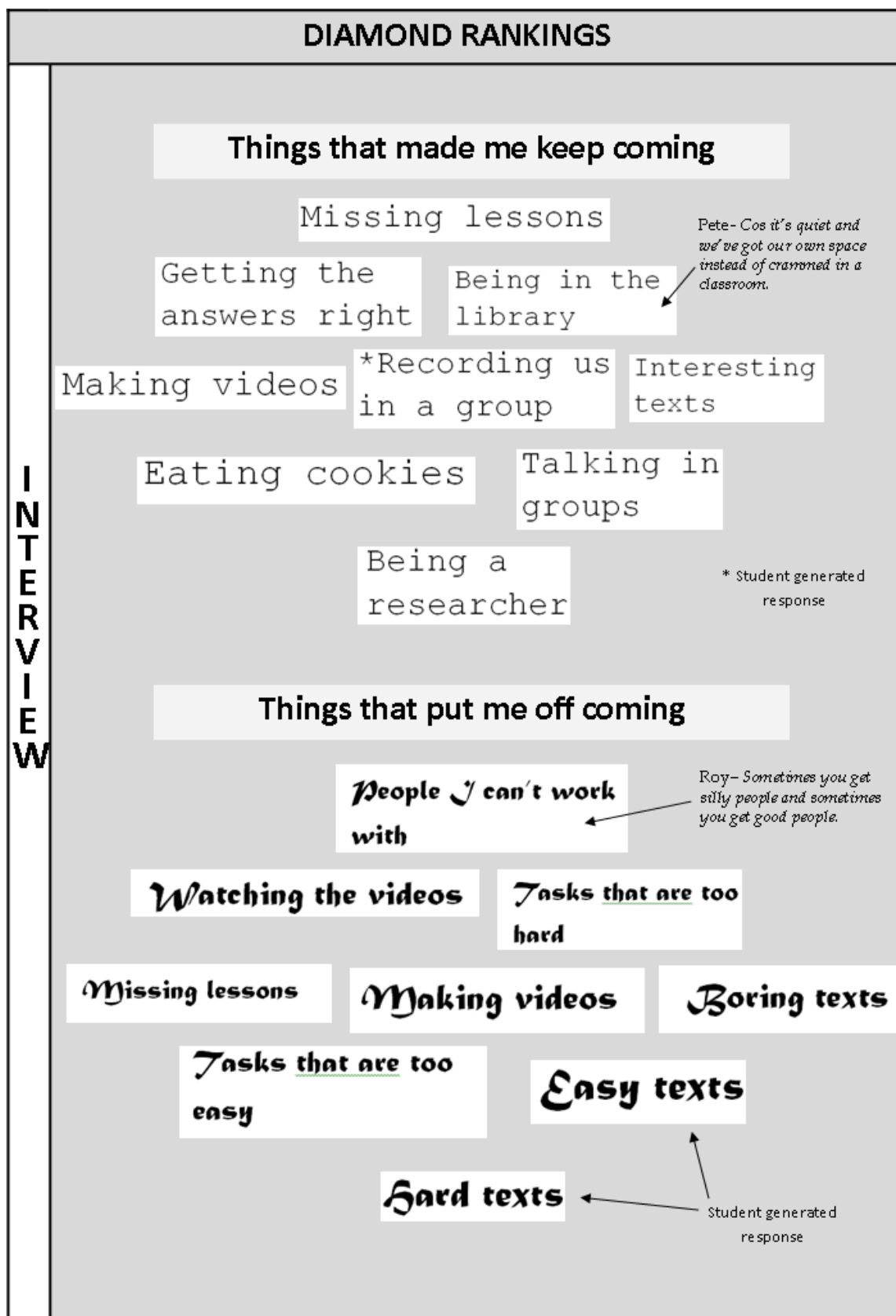
[Pete and Roy are writing (4)]

Ned- *What shall I do?*

Roy- *There- 'recording us in a group'.*

Pete- *Making videos is the same one.*





GROUP D

INTERVIEW

Ali and John discuss their construction of a diamond rankings. Ali concentrates on 'Things that made me keep coming' and John on 'Things that put me off coming'. They each work independently. Then Ali inspects John's efforts.

Ali [Reads all the cards]- *I think it's people you can't work with- that's the top one* [moves this card to the top]

John- *Or watching videos cos....*

Ali- *I think that would be next* [moves this card to the rank under 'people I can't work with'] but *I think that* [points to top card] *is that.*

Ali- *What could be next?* [Reads all the cards again] *Boring texts?*

John- *Probably.... Aye....boring texts.*

Ali- *What does 'making videos' mean?*

[Attention shifts to Ali's attempts at creating a rank for 'Things that kept me coming']

Ali [Pointing to his diamond (2)] *Which one's this one? That one's why you wouldn't come* [points to John's diamond] *and this one's why you would.* [Reads the cards]

Ali- *Making the videos* [places this card near the top].... *Being a researcher* [Places near the bottom implying he doesn't connect filming and research. Ali then completes the rest of the diamond independently. Teacher C approaches the boys]

Ali [Pointing to his diagram]- *Is that right miss?*

Teacher C- *I'm not sure I know. You just have to put it in a diamond.*

Ali- *Aye, but we didn't know what comes first... If you make it in a diamond, it's in a row and you don't know what's first.*

John- *We put the cookies second!* [Laughs]

[Teacher C asks the boys to fill in some blank cards with their own responses to the research process. Teacher C leaves]

Ali- *Try to fill in one yourself. Why you wouldn't come back* [passes John a blank card].

John [pauses for thought]- *Missing cooking... On Mondays.* [John writes this on the card]

[Ali places John's card at the bottom of the diamond (3)]

[The boys carry on working. The researcher then approaches them and asks how they are getting on]

Researcher- *John, what have you got there?*

Ali- *I'll do it*

Researcher- *Well John can help us....*

[John reads through the rank they have made (4)]

1



2

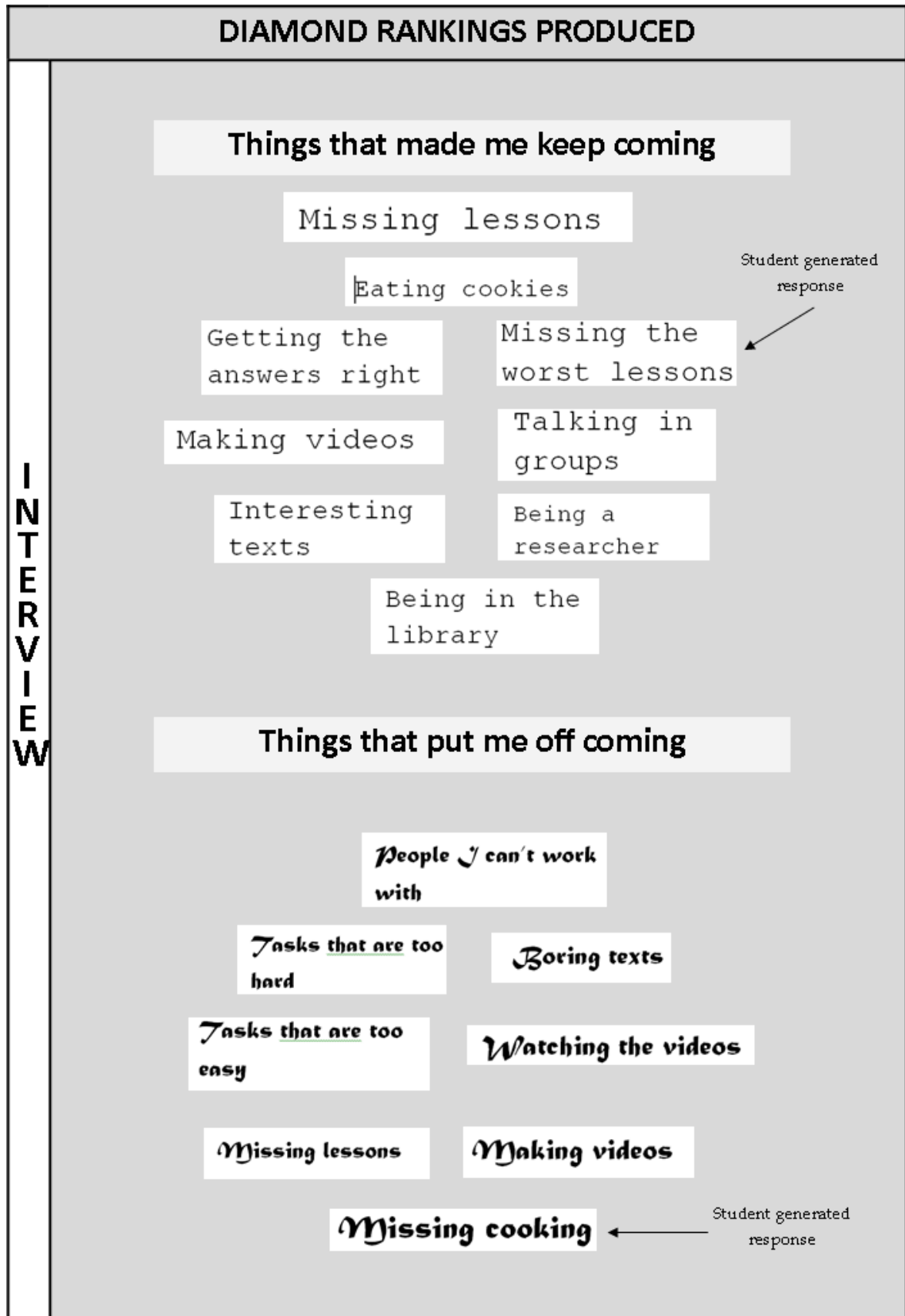


3



4





CONVERSATION WITH TEACHER C

INTERVIEW

Ali and John are producing drawings to illustrate their thoughts about when tasks were too hard (John) and when it didn't work well (John). Teacher C is roaming around the groups and strikes up a conversation about the boy's pictures.

Teacher C – *Are you doing what it looks like when you're working?*

Ali – *Nah. I drew like.... How does it agree on one thing and then they disagree. Like, they have a vote.*

Teacher C – *Did you find that frustrating?*

Ali – *Aye.*

Teacher C – *Were you ever persuaded if they said 'I think it's this one'? Did they ever persuade you to change your mind?*

Ali [Nods] *And then they have a vote and then they say that most person's on that side for that word [points to table].*

Teacher C – *Is that how they did it?*

Ali – *Aye.*

Teacher C – *Did it work doing that?*

Ali – *Nah.... It's Jon really.*

Teacher C – *Right. What is it that Jon does?*

John – *He thinks different from us.*

Ali – *Aye, like we think it's this one and then we think 'Ah right, it's this one' and then he puts that word back and puts the word that he thinks.*

John – *And then we're always right.*

Teacher C – *So it's really his way or no way.*

Ali – *Aye.*

Teacher C – *Sometimes it's good to stick to your guns when you think you're right and other lines... you need to listen to everybody don't you.*

Ali [Doesn't respond]

Teacher C – *Would you rather work by yourself?*

Ali – *Working the two of us... me and John. I wouldn't work by myself.*

Teacher C – *It's better in pairs do you think?*

Ali – *Aye. Not in a big group cos-*

Teacher C – *Do you think it's better to work in a pair of your choice? Would you rather work with someone you choose to work with or would you rather have someone you were told to work with.*

Ali – *Choose.*

Teacher C – *Why?*

Ali – *If someone else comes then you don't know how you'd work with them.... You would pick someone that you could trust.*

Teacher C – *That you think you're going to get along with?*

Ali [Nods]

Teacher C – *What was it like when you had Jon and Sam in the group?*

Ali [Laughs] *That wasn't good.*

Teacher C – *Why?*

Ali – *Cos they were always arguing all the time.*

Teacher C – *They both wanted to be the leader?*

Ali – *Aye. Them two, they'd say 'I'll do the camera this time cos you did it yesterday.'*

Teacher C – *Do you feel you got pushed out when you've got people like that? And you're the quieter ones.... The more sensible ones.*

Ali nods.



ALTERCATION FOLLOWING THE CONVERSATION

INTERVIEW

4



5



6



7



Teacher C leaves. Having explained to her how he felt dominated by Jim and Sam, Ali now dominates John in the same way.

Ali- *Where's Sam?* [Looks at John's drawing] *Are you done?* [Points] *What's that say?*

John- *Solid!*

Ali- *Solid! Do another one saying 'Propa' P....R....A.... I'll do it* [Grabs the pencil (4)]

John refuses to let go. Ali wrests it from his grasp (5). John covers his work with his hand (6).

John- *No!*

Ali- *I just need to write it.*

Ali writes the word 'propa' on John's picture (7).

STUDENT DRAWINGS WITH COMMENTARY

INTERVIEW

Researcher [pointing to Ali's picture] *Is this when it goes well?*

Ali- No

Researcher- *This is when it goes badly.*

Ali- *It's about when it goes bad cos that person picks that one [points with pencil (8)] and he says 'I think it's this' and then another person picks that one [points] and says 'I think it's this. And then the one person [points to right hand figure (9)] says 'Let's have a vote' and then that person.... And then them three [points to three figures on the left] ... this one's by himself [points to right hand figure again].... They would go with that one and then when it comes to the answers I would get it right [points to right hand figure].*

Researcher- *You can be outvoted by people who don't know what they're talking about.*

Ali- *Exactly.*

Researcher- *And John, you got it when it's going well.*

Ali- *No. When it's too hard.*

Researcher- *Go on then.*

John- *I'll just do that [adds to drawing (10)]*

Researcher- *Where are you?*

[John points from left to right- Rob, Jim, John and Ali]

Researcher- *What's Rob saying?*

Ali- *It's solid!.... And then I say 'propa'.*

Researcher- *What does that mean?*

Ali- *It's propa solid!.... As in hard. Slang word.*

Researcher [To John] *You've got the camera at the top. Do you think it makes a difference when you are working in a group or do you forget the camera's there?*

Ali- *We do, cos when the camera's there people know that the camera's there and they.... Be naughty.... Because of the camera. Cos when they show the videos, everyone laughs.*

Researcher- *Do you prefer it when everyone is fooling around?*

Ali- *I like working in a pair, cos when there's too many people... like John. I like working with John cos I can't trust him. Some people you can't trust cos they want you to do all the work.*

John- *I didn't like Group C cos they were always acting daft and they were messing round.*

Researcher- *This group messed around and then it calmed down a bit.*

Ali- *Some people went out. Like Sam. He wanted to move.*

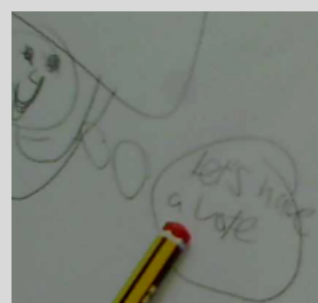
John- *Well Rob wanted to move at first, he says he wanted to swap with me in Group C but he didn't like it and then he came back.*

Researcher- *Do you think a group should be able to vote someone off?*

8



9



10



Ali- No

Researcher- *Why's that?*

Ali- *It's not fair. Cos if they didn't want to work in your group they could move. It's not very nice to say you don't want them in this group.*

Researcher- *But they're not being very nice if they are stopping you working are they? So in that case it might be fair. If it was a temporary thing do you think it would be fair?*

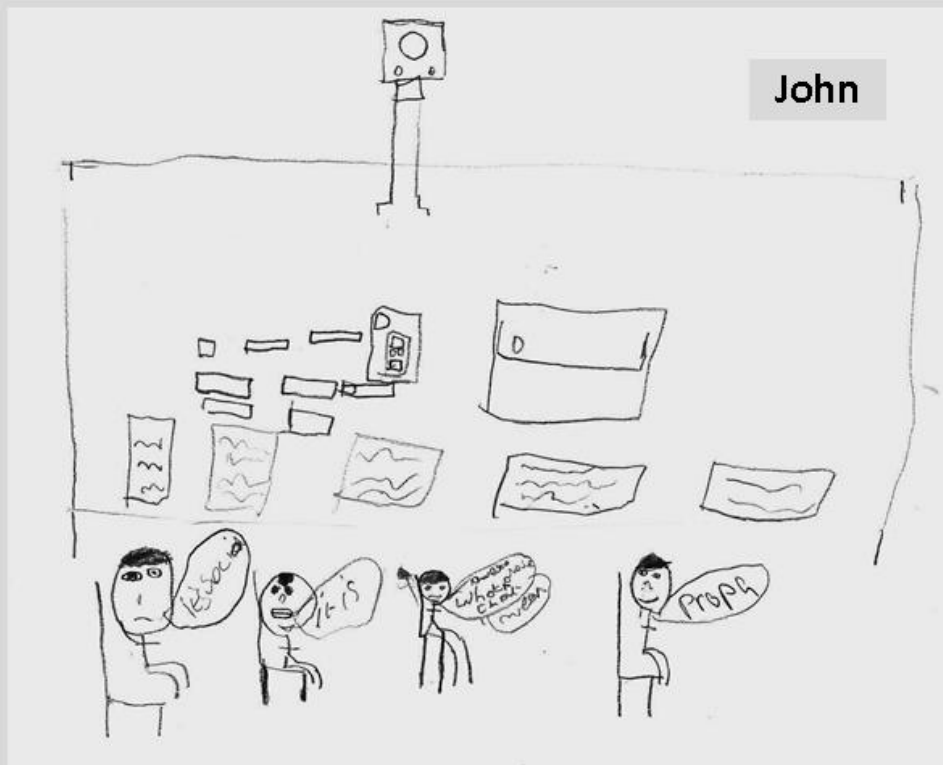
Ali- No.

STUDENT GENERATED DRAWINGS

Ali



John



H1.5 Video elicitation

At the conclusion of the intervention Teacher C carried out a focus group interview with members of Groups A and D. The results were presented at the final meeting with the research team.



Group A



Group D

At the final meeting Anne reports the results of video elicitation with Group A and D. They watched video for both groups recorded on day 6 of the improbable cat and made the following comments.

On friction

Rob- *Arguing with each other helps you to understand more.*

Jill- *The girls didn't argue much.*

Kim- *The girls looked like they were a better team because they didn't argue .*

Ali- *The girls didn't say much to each other when they were deciding on the words but the boys argued. I think this helped them to get the right word.*

John- *Jim disagreed with everything.*

Rob- *Sam messed about too much but he was funny.*

On power

Betty- *Fay was quiet but she was thinking.*

Rob- *Ali was being boring. He was bossy.*

John- *Jim disagreed with everything.*

Jill- *Kim was bossy but not in a horrible way.*

Kim- *I was the bossy one.*

Ali- *I was the bossy one.*

On drawing

Ali- *Jim didn't want to be 'unsuccessfully' because it's a hard word to draw.*

Ali- *We didn't use play dough because Jim is a good drawer.*

Kim- *I couldn't think how to do unsuccessfully but Betty gave me a good idea.*

On video

Ali- *It's a good idea to record yourself doing something because you can learn something from watching yourself.*

Ali- *The girls didn't get the camera angle right so they didn't get everyone in.*

H2 Meetings

H2.1 Week 3

Present

Teacher A

Teacher B

Teacher C

Lily (Group B)

Eve (Group B)

Lily and Eve have volunteered to attend the meeting. Clips of video recorded early in the intervention, showing Group B working with an early format of the design [Appendix C4.2], are compared with video taken of the group on the last day of the Impossible Cat sequence [Appendix D 2.30]. It was hoped that these clips would start a discussion on

How and why groups break up and what can be done about this

The merits of different formats of the designed materials

The clips were shown and then the girls were given the opportunity to respond first.

Lily- *The picture one you didn't do much work cos you just choose a picture randomly- but the word one you're doing much more work which I like.*

Researcher- *But the picture one you couldn't choose randomly because only some of the pictures fitted the sentences properly. You did quite well because you picked the mobile phone didn't you.*

Lily- *Yes.*

Researcher- *What happened with that group? You were working quite well and then it split up.*

Lily- *Cos Eve told us that Sue was saying the group worked better without me there.*

Researcher- *Is that right Eve?*

Eve- *Uh huh. She said it.*

Researcher- *Right.*

Teacher A- *I picked up on that. I knew something was happening. You took an active part at the beginning didn't you Lily? She was very animated in her organisation of the group then when I looked at them the following day, probably after this comment had been made by Sue, you were very dejected. You were sitting back and you were very quiet.*

Teacher B- *Have you spoken to Sue about what she said?*

Lily- *No.*

Researcher- *I was saying earlier that there seem to be lots of fights when you come in- people having arguments and stuff- am I right?*

Teacher A- *Not necessarily with Lily and Eve because they aren't necessarily argumentative people are you? [Laughs]*

Teacher B- *I think Carl was meaning in general.*

Teacher A- *Yes. Yesterday I stopped them because there were several pockets of arguments as they were coming in. Is it better to work on your own- in pairs.*

Lily- *It's better working in a two cos you have more space. You have more room to put everything. You can decide on one thing because you don't have to argue with the whole group.*

Researcher- *Sometimes arguments can be good because they can stop a person who gets it wrong from making a mistake. Can you think of a time you had an argument and it was a good thing?*

Lily- *We've not really had an argument about that.*

Researcher- *So the arguments weren't anything to do with reading- it was to do with something else.*

Lily- *I think so.*

Eve- *When we went back to the group Sue said me and Lily were not doing any work.*

Lily- *Because I was distracting Eve.*

Researcher- *Right. So who makes the rules?*

Eve- *Sue and May.*

Researcher- *I was wondering whether it is better to set groups up and then let them split up or start off with people working in pairs from the beginning.*

Lily- *It is up to them what they want to do, so like I don't really know.*

Teacher B- *Is there any pair in the class you would like to work with when it broke up? Or is it just working in a bigger group you don't like?*

Lily- *It's much better working in a two. Because in a larger it's not much concentration.*

Teacher A- *Do you feel you can't have your say enough?*

Lily- *Yeah.*

Researcher- *Who would you say are good readers in that group?*

Lily- *May.*

Teacher A- *I think Lily is a great reader- I think you're being a bit modest here and Eve has got a lot more intonation over the past few months.*

Researcher- *Do you think everyone enjoys reading?*

Lily- *Yeah.*

Researcher- *Really? Do you think so?*

Lily- *Everybody in my group, but I don't think most of the boys like reading.*

Teacher A- *Do you think we should have looked at the groups and put you into groups?*

Lily- *Yeah, cos you get to work with different people.... Let them work for two days and then split them up.*

Researcher- *Would that have stopped the arguments you were having in your group?*

Lily- *[Nods]*

Teacher B- *Sometimes you can pair people up, so you would be with Eve. But then you'd mix the groups up so different pairs would work together. So you'd be comfortable with the person you were with but you'd be working with different pairs.*

Lily- *Uh huh.*

Researcher- *What would you do if you couldn't change and you had to stay in the same group for a month?*

Lily- *I wouldn't go. I'd just go to my normal lessons.*

Researcher- *Thing is, in experiments you have to try and keep things the same so that's a problem I'm going to have to solve. There's not much point in running an experiment if no one is turning up.*

[The conversation then turns back to the design of the materials]

Researcher- *Which worked best? The pictures; the Giraffe and the nonsense words [Appendix C 4.8] or the cat?*

Lily- *The cat.*

Researcher- *Eve?*

Eve- *The cat.*

Researcher- *What is it about that that works?*

Lily- *Cos you had a story everyday and you knew what the first part was all about.*

Researcher- *How long should the story last for?*

Lily- *Two weeks is enough and then go on to a different story.*

Researcher- *Do you think the play dough and the puppets help?*

Teacher A- *I think it gave them a deadline. They knew what was expected and they worked to that. Without it, it might just fizzle.*

Researcher- *Do you think doing the same thing each day helps or does it get a bit boring?*

Lily- *I think it's good at the start but if we keep doing it it gets boring.*

Researcher- *So we need to find ways of doing the same thing in different ways.*

Teacher B- *Do you think it's fair what Sue said or is it because she said it behind your back?*

Lily- *It would have been fine if she'd said it.... Like you're taking over the group....Right, and then I would have said fine and then I would have just got on with it.*

Teacher B- *So if someone has a problem they should speak to the person, then you can speak back because maybe she's not right.*

Researcher- *I could make some rules about this, but that's not real is it? It doesn't give people choice. The good thing about the cameras, particularly if you are worried about bullying*

Teacher B- *Uh huh*

Researcher- *The good thing about the cameras is we can see.... It's when excluding someone becomes bullying. I don't know what the distinction is between the two.*

Teacher A- *I think Lily's hurt but I think you're strong enough to think 'I'll overcome this' you know. Don't let this get on top of you at all. And we'll talk to Sue about it and get that sorted out. But we have to remember that she's had her own problems and that she was in tears as well. So it's not something that's just happening to you.*

Researcher- *What do you like reading at home?*

Lily- *Michael Morpurgo*

Researcher- *And what about you Eve?*

Eve- *Dunno*

Teacher B- *Do you have any books?*

Eve- *I normally read to my sister.*

Researcher- *How old is your sister?*

Eve- *Three*

Researcher- *Do you think kids should be able to pick the story?*

Lily- *Yes, that would probably be nice but they would all have to agree on it. If they can't agree on it you would just like choose it.*

Researcher- *Yes, everyone wants to read different things.*

Teacher A- *You have a much broader knowledge of what's available and what's appropriate.*

Researcher- *I don't think the texts I chose have been very girl friendly. What do you think?*

Lily- *The cat story is for everybody because everyone likes cats.*

Teacher A- *I think texts for 8, 9 and 10 are quite boy related if you think about it. Danny Champion of the World, Goodnight Mr Tom, Private Peaceful, Kensuke's Kingdom. They're all very boy focused.*

Teacher C- *Do you think that's because you've got to really focus the boys on the story and that girls will join in anyway?*

Teacher A- *I never thought of the Improbable Cat as being boy focussed.*

Teacher C- *I think it's because it's sinister. Do you think that's more appealing to boys than girls? Are you happy with the choice of books you have here in the LRC [library]?*

Lily- *Yes.*

Teacher C- *Do you think taking part in the project has made you think about reading a bit more?*

Lily- *Yes cos I took a book out of the library.*

Researcher- *Which book did you get out?*

Lily- *Like this fairy book... this rainbow thing.*

Teacher B [Laughs]- *They're real girly girls these.*

Teacher A- *Lily normally has different coloured polish on her nails... I tell you what I liked as well and I remember getting a real sense of satisfaction- I didn't really read that much- emm... Robin Hood stories [Laughs] I really enjoyed those. I was actually in Sherwood Forest...*

Researcher- *I wouldn't have thought that.*

Teacher B- *No.*

Teacher A- *Would you not? I'm not a girly girl.*

Researcher [To Lily and Eve]- *Did it make a difference the lesson you were missing when you were doing the research?*

Lily- *It doesn't make a difference cos you're mainly doing work.*

Researcher- *But if you missed cooking would that make it harder to concentrate?*

Lily- *Not if we weren't cooking but if we were it would make a difference.*

Teacher C- *Is first thing in the morning the best time to do it?*

Lily- *Yes, cos if it was last lesson we would be hyper.*

Researcher- *Do you get more hyper as the day goes on? What happens when you are hyper?*

Teacher B- *Have you talked about it at home?*

Eve- *I told my mam about it when we first started and she asks me about it every day what I have been doing.*

Researcher- *Do you think she'd like to see the video of you working?*

Teacher B- *Would you like them to see the video of you working?*

Lily- *Yes, to see what level we're at with reading.*

Teacher B- *I think that would be good- we have a progress day in July when parents can come in and have a slot.*

Researcher- *Would you like that or would you rather they didn't see?*

Eve- *Yes. They want to know what I've been doing and they say I'm lying and that.*

[All laugh]

Eve- *I tell mwen I was reading and she doesn't believe us.*

Teacher B- *Aw, well you can prove her wrong.*

Teacher C- *When you saw the video did you think that your mam and dad would be proud if they could see it?*

Eve- *Uh huh.*

Researcher- *Well that's something we could set up. We'll need to pick a good video, but that's OK because you made lots of good videos. The only thing we need to watch is consent. The forms give individual consent but you've got a group of children in each video so that means we'll need to apply again for blanket consent.*

Teacher C- *OK*

Teacher B- *Is it good to be... like have you got the idea... cos mostly you go to lessons and teachers have got the lesson planned and know what they are doing and you have to sit there and do what they have decided. Have you felt it's been a bit different?*

Eve- *Yeah, it's been different.*

Lily- *It's been different cos when you're in lessons you don't really talk about it because we're all together but when you're split up into groups it's much better.*

Teacher B- *Because there's not much point talking when you've all been together and heard it at the same. Do you talk about it after the lesson?*

Lily- *We talk to like Betty's group and things.*

Teacher C- *So you were checking your answers with them?*

Lily- *No, because sometimes Betty says 'Did you get them all right?' and I'll say 'half of them' and she'll say 'half of them' as well and we'll discuss about them and what we've done wrong and things.*

Teacher C- *Was it important to you to think you'd got it right?*

Lily [Nods]

Researcher- *What about when we looked at the video in the morning? Do you prefer to talk about it then or after the lesson?*

Lily- *I prefer to talk about it after.*

Researcher- *What if you had time in the sessions to talk about it with other groups?*

Lily- *Nods*

Teacher A- *You do get time to talk at the end. I overhear groups say 'I told you you should have put that'. Ali is just the same.*

Teacher C- *Is there anything you do in the project that you'd like to do in normal lessons?*

Lily- *Yes, like going into little groups to discuss things.*

Teacher C- *So more group work.*

Teacher A- *I think it's a good idea in the area we've got where we've got more space. We've normally got quite a lot of conflict between the students so it would be quite hard in the class. But if you do it straight away and this is your expectation about how it would work we might stand a better chance.*

Researcher- *When we first started it it was lively but then, especially with the Impossible Cat it seemed to settle down.*

Teacher A- Yes. It did. I was very impressed. At times when you look around it's been 100% focussed on what they're doing. It's been lovely. It's different characters that can unsettle a group. It's the actual working out of who is best working with who from my point of view as a teacher. And getting round that somehow.

Researcher- I think I'll make that point when I feed back to the whole staff- that we were mob handed in here and if we hadn't been I think that would have been pretty tricky.

Teacher B- It's getting the balance between structure and getting them to feel that they're not unhappy to go into that group and keeping the variety to keep their interest. And those changeover bits where you introduce a new concept are where it falls apart, but it's having the confidence to know that even if it doesn't work in that lesson you can get them back in the next lesson. You never get to the point where you know they'll do this, this and this, but you can kind of go along like that.

Researcher- In the first week I put it to the group that, if they wanted, they could vote to prevent Sam attending the sessions if he was going to disrupt them. We had a vote and everybody voted to keep him in. Would you rather have people who distract you included in the project or not?

Eve- I think they should join in so it gives them something to do so everyone can participate.

Teacher B- What if they are disrupting it quite badly so the group can't concentrate on what they're supposed to be doing?

Eve- Like change to a different group and if they can't work in that group.... Uhm....

Teacher B- Give them a few chances... very nice... very fair.

Teacher C- Do you like choosing your own group or do you like it when someone says work with such and such?

Lily- I think it would have been better if the teachers had decided who you were going to work with so it gives you time to get to know what they're really like.

Teacher A- You really work well with our other reading intervention group, would that have worked here?

Lily- I don't know cos they usually call me 'midget'.

[All laugh]

Teacher A- I think there's a bit of name calling going on but that doesn't happen in a structured situation and when they're busy getting on.

Researcher- What about removing and then reintroducing people who disrupt the groups? That would allow the groups to establish a routine and would also allow the other person to get the hang of fitting in.

Teacher A- Good idea. Unless a student proves to you that they are going to work- I mean Barry for example- it didn't work when we brought him into Group D.

Teacher C- But it worked with Alice.

Teacher A- Alice actually read today. I was so pleased. Yesterday she completely refused to read.

Teacher C- I think that there are some students who need to observe before they join in.

Researcher- That's a good idea.

Teacher A- *It's not such a threat.*

Teacher C- *I did think it would be disruptive having people coming in, but like you said, that's the reality, that's what classes are like.*

Teacher A- *I think one of the mistakes you made at the beginning was to inform the students that they could leave the programme. Perhaps tell them that they can leave the programme but you will go and work somewhere.*

Researcher- *That's something I should have organised and made sure there was a plan B in place.*

Teacher A- *We had too many students saying 'He said we didn't have to join in.'*

Researcher- *True*

Teacher C- *Actually, I thought because you said that that the drop out rate would be quite high but it wasn't.*

Teacher A- *No it wasn't. Barry said it, Sam said it and Jon said it, but there were no arrangements made for that.*

Researcher- *Yes, that's something I should have planned for.*

Teacher C- *But I really thought that given the option people would start off and then say 'Nah, I don't want to do that anymore' but it didn't happen. And those that did came back.*

Teacher B- *Maybe that observation thing could come in there. So you could choose to observe a session or participate.*

Teacher C- *That observer role is important isn't it?*

Researcher- *Yes. It's something we have been missing. The groups were so small that when you took someone out to do some observations it kind of wrecked the dynamics.*

Teacher B- *But I think it's like treating you as a researcher. I didn't see any silliness.*

Teacher C- *When you give them something new it takes them a little while to get their head round it.*

Teacher B- *You trusted these people and that trust was repaid.*

Teacher C- *I think that's what I've seen... the way you work with the students. You've been very calm and treated them differently from the way that teachers have to in the classroom and that made a difference.*

Researcher- *Well I had to be quite stand offish. Even standing close to the tables changes the dynamics of the group.*

Teacher C- *Do you see Carl as a researcher or just another person coming in to teacher us.*

Eve- *A researcher cos like he's different from the teachers.*

Teacher C- *In what way?*

Lily- *Cos he doesn't really shout [laughs] Um.... And he doesn't say 'You've got that wrong. You'll have to change the answer.'*

Researcher- *That's good because that's kind of what I was trying to get at, to get away from getting one answer.*

Teacher A- *And also you call him Carl and not Mr Towler.*

Researcher- *The last thing I was thinking is if we went ahead next year what about having some of this year's researchers as mentors for the new intake?*

Teacher A- *Absolutely agree.*

Teacher B- *Yeah.*

Researcher- *I'm just conscious of the impact on the timetable, but maybe you could rotate it or something.*

[Lily and Eve then leave to attend the next lesson. Teacher A starts to talk about the work she has done with the girls in the reading intervention group that she runs after school.]

Teacher A- *This year I got a new group and Lily and Eve were on the list. At first they were really reluctant to read but now you can see on the video the confidence and she really tries with her intonation in the video.*

Teacher C- *Putting some drama in there helped. That's what you were doing with the puppets.*

Researcher- *I was wondering how the boys would cope with that.*

Teacher A- *I thought the puppet idea was great, but if you pre-prepared them then it would cut out the 'I can't draw' bit.*

Teacher C- *I was thinking that you could just take some figures from the internet and give them to them.*

Researcher- *It would save time as well. Thing is, when they're making something they sometimes talk about the story.... Most of the time they are not though.*

Teacher B- *Roy, when he made his drawing of the explosion and what he thought the explosion was [see materials Appendix C4.3] he said he put number 13 on the door and he said, and I don't know if this is true or not, that his granddad lived at number 13 and his house set on fire. And I went 'That's terrible' and he said it was haunted. I asked if his granddad was hurt and he said no, he was out fishing. I thought that was interesting. He'd got the idea it was a kind of gas explosion.*

Researcher- *Yes. That kind of shows the problem we've got. Like, remember what Roy said about the traffic camera [see materials Appendix C4.2]- 'It can see through you'. Now we know that's not right but he read that sentence with a fluency that I didn't hear in the running records. For him these materials worked well whereas, as we've just heard, the girls didn't like them.*

Teacher A- *Roy listens quite well when I read to him- even the RML books. He will read passages when I ask him to but when I'm reading the story he's focussed and listening to every word. He's got a good ability to understand the story and absorb it by listening to it.*

Researcher- *That makes sense to me because he came near the top in the comprehension score but could only read 50% of the text accurately.*

Teacher A- *I think he's just interested. I think he has genuine interest.*

Teacher B- *He brings his own world into things where others don't make a connection.*

Researcher- *When you listen to the children reading on the running records it's sometimes like a machine. They don't seem to see any reason why you would connect meaning with the symbols on the page. I think if it's all about skills then it becomes mechanical.*

Teacher A- *I'm not sure that Eve will go that far. I think it's home and here.*

Teacher C- *She looks very protected to me.*

Teacher A- *There are a few children in the house and I don't know that she goes that far.*

Researcher- *Experience wise?*

Teacher A- *Yes.*

Researcher- *You could have knocked me down with a feather when she said her parents didn't think she could read.*

Teacher C- *I know!*

Teacher B- *Did anyone come in on parents' day?*

Teacher A- *When she said 'They think I'm lying'.*

Teacher B- *Roy, when he made his drawing of the explosion and what he thought the explosion was [see materials Appendix C4.3] he said he put number 13 on the door and he said, and I don't know if this is true or not, that his granddad lived at number 13 and his house set on fire. And I went 'That's terrible' and he said it was haunted. I asked if his granddad was hurt and he said no, he was out fishing. I thought that was interesting. He'd got the idea it was a kind of gas explosion.*

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Teacher C- *I know!*

Teacher B- *Did anyone come in on parents' day?*

Teacher A- *When she said 'They think I'm lying'.*

Teacher B- *I've heard from quite a few kids that they read to their younger siblings like [name of child not in intervention]. He shows them the pictures.*

Teacher C- *He's dyslexic as well. Maybe that's the attraction for her [Eve] because she can read to others.*

Teacher A- *She does read quite well but when you ask her questions about the text she won't volunteer any information. I know for a fact that when she reads a text she doesn't fully understand it. Hers was the test that went wrong.... She was very quiet and I couldn't hear what she was saying.*

Researcher- *We definitely have one running record for Eve because it was one of the ones we looked at before.*

Teacher A- *It would be good to do this again in September so we can get a routine going.*

Researcher- *If we did go down that road then we could plan it together because we both have a shared feel for what it involves.*

Teacher A- *The tests that you did at the beginning. Do you see them differently now? Are they not as good as they seemed in the tests?*

Researcher- *If you look at the text of the Improbable Cat that they have been using, and they're tackling words like pandemonium and anaesthetised... tricky words like that. That's roughly at the level of the Level One texts in the tests. They cope differently in terms of their decoding but they all managed to work collaboratively to come up with definitions that made sense. Their reading behaviours in the groups seemed to be dictated by the sort of person that they are and the experiences they have had. In the groups some are loathe to settle and disrupt things, others dominate things, they have a certain style. So it's such a complex mix.*

Teacher B- *I think it would be really valuable to do the running records next year. Because when you first gave them out I thought Uhh! You'd never be able to do that with a whole cohort. But I'd be happy to do that over 2-3 weeks because of what it tells us.*

Teacher C- *Would you start them on the Level 1 text or with the supplementary text?*

Teacher A- *I think you should start with the supplementary text so they don't get their confidence knocked. I felt so sorry for Eve because on the word test she was getting them all wrong.*

Researcher- *And she could see that.*

Teacher A- *She was becoming a bit dejected. Her pronunciation- I wonder if she has a speech impediment. I feel awful not picking up Roy's hearing impairment.*

Researcher- *I'm kicking myself as the letter confusions we saw in the tests are a classic sign of that.*

Teacher A- *I think he has two handicapped brothers in the family. But we have to keep them reading in between- we've got to invest in some books that the kids actually enjoy. A scheme is good as a teacher because you actually get to know the books and the questions to ask. But when they're reading anything off the shelf, I find that really difficult. But these schemes seem to go when the kids get to secondary school.*

Teacher B- *What you said about their attitudes and experiences. Is there any way of having a structured questionnaire or questions that you would ask as well as an idea of that, so not just doing the test.*

Teacher C- *I think it's also about emotional intelligence.*

Teacher B- *A character like Sam. It's good to have him in a group because, despite his behaviour, he's really quite intelligent and has a quirkiness.*

Teacher C- *The thing is he skims over everything. Eventually he'll come a cropper with that.*

Teacher A- *It's attention seeking. I think a lot of them don't care about anything and the consequences at all.*

Teacher C- *I don't think there are many of them like that.*

Teacher A- *Well the children I saw were trying but their attempts didn't really make any sense. Maybe you could scaffold it by having the cards for each a word a different colour and then, when they'd got the hang of it, take the colour scheme away. I've given Year 9 sequencing stories of Little Red Hen- this is too hard and it's six pieces of paper.*

H2.2 Week 4

Present

Researcher

Teacher A

Teacher B

Teacher C

The meeting starts with a clip of Group C Week 4 day 1 [for video log see Appendix D2.19] in which Roy is struggling to read the text. On the day the meeting took place Sam had been excluded from the intervention owing to a fight on the way to the session.

Researcher- *He was the boy who associated the voice recorder with the police. He must have had something to do with the police where he has seen them use one.*

Teacher A- *He's down on the SEN register as school action plus but just speaking and listening- nothing about his hearing.*

Teacher B- *When I taught him at the beginning of the year I had to sit him at the front- and there's no reason why I should have thought you weren't aware of that- I had him on the right so it must be that he had better hearing in his left ear. But verbally, when he speaks to you.....*

Teacher A- *It's not formed.*

Teacher B- *So I wonder if it's because he can understand words but can't say.... I think it's a physical thing rather than not understanding what the word is. Really, he should have had speech therapy shouldn't he?*

Researcher- *I noticed in the running records that some of the errors he made because he reversed his letters- b for d and f for t.*

Teacher A- *When he writes a word it's how it sounds to him. He can't write the 'th' sound- it's a 'f' sound.*

Teacher B- *There's still quite a few that do that.*

Researcher- *Do you think that this intervention should include SEN and those who didn't get Level 4?*

Teacher A- *Well even higher because these students can act as leaders and encourage others and break the stalemate. I think it could become a little bit tedious because there's nothing to move them forward.*

Researcher- *I think it's been good to keep students who have behavioural issues. It's been good to see students like Sam hanging on in there.*

Teacher B- *I'd be really interested to see what Sam.... In my idealistic dreams [laughs]... I would like to think that maybe tomorrow maybe Sam might possibly access it. We didn't have any success today, apart from the fact that he didn't go and interfere with anyone. He walked around, then he kept away. But also Pete said 'Sam will you come over?' and tried to encourage him and when he didn't want to there wasn't a big fuss. Later I said to Pete 'I saw what you did and thought that was really good. I know he didn't do what you wanted but thank you for doing it.' And I'm just hoping that little seeds get sown and that he can't get over it today but maybe tomorrow.*

Teacher A- *Pete's a lovely boy- really considerate and kind and thoughtful. I see him in the reading group and he works with Roy really well.... Erm.... They're very supportive of each other. We've seen that develop now in the groups they're in- that you've put them in.*

Researcher- *It's interesting as to whether they get that from a programme or whether that are just caring people anyway.*

Teacher C- *I think they're comfortable in their skins- they might not be able to do this that or the other but it doesn't stop them. There's a lot of kids have high expectations that you can either do it or you can't do it but if you can't, don't even try.*

Researcher- *I did think that Barry and Sam were having a bad day but I wasn't sure if the girls [in Group D] were saying he was messing it up or that he just wasn't getting it right. We could look at the video....*

Teacher C- *I think that the group, having had some time to themselves, I think it's making them a bit stronger to be able to manage him [Barry] better.*

Teacher A- *That's good.*

Researcher- *We had a bad day on Tuesday- I thought the bank holiday would disrupt things- so today I played them this video of what was going on. [Researcher restarts the video as the boys try to retell the story]. Sam has been doing all the work so now we get to the retell and Ned has no idea.*

Teacher A- *I think Ned is lacking a lot of confidence isn't he.*

Video recording [Ned]- *This one is about a boy who is not bothered about going on a trip.*

Researcher- *The word is pessimistic- pessimistic about being allowed to go on the school camp. This is Ned's version of the story so he has totally the wrong end of the stick..... That's their response to 'canned laughter'.*

Teacher A- *I thought that was excellent.*

Researcher- *Nice visual.*

Teacher B- *But.....*

Teacher A- *What were the alternatives?*

Researcher- *Loud, happy, silly. The distractors were all about happiness or loudness, not fake which is the right solution.*

Teacher C- *It also depends on what kind of word it is- do you decide that all the choices will be adjectives?*

Researcher- *When I started it was totally different words so that grammatically only one would fit. They did quite well early on. So what I'm doing now is I'm generating choices all of which would sound right if you inserted them into a single sentence but if you think about the paragraph as a whole sometimes only one will fit. So like 'nonchalantly' could be substituted by 'thirstily', but 'sipped' means that can't work.*

Teacher B- *Nonchalantly gets to the feel of that cat [laughs]. Thirstily doesn't do that.*

Researcher- *The language is very simple and accessible in that book but the ideas are very deep. But they seem to think that a word has a meaning and that's it. Some of the words they know but they struggle with anonymity.*

Video- *It's someone scared. It's spooky.*

Researcher- *He doesn't know what's happening in the story. Basically in the story, night's drawing in and the shadows are gathering.*

Teacher C- *The children started off on the wrong foot- you took them down a completely different...*

Researcher- *He's not engaged with the text at all.*

Teacher B- *Who's that one?*

Teacher A- *Ned.*

Researcher- *Yes. If we have a look at the other groups... the obvious choice is Group D. [Plays video-see video log Appendix D2.20]*

Teacher C- *That group didn't work with Sam in it.*

Teacher B- *It has to be tactile.*

Researcher- *This is Rob. He's the best reader in that group by a long way. John as well. He keeps them on track.*

Teacher A- *He did really well yesterday with his drawing. I just think he lacks confidence pushing himself forward.*

Researcher- *At one point Ali says he's useless, all he does is play with play dough. He's a waste of space- that's what he says. It ends up with Jon doing all the drawing and Ali managing the text role. These two [points to Rob and John] are left..... So that day, after I played the video I said there's obviously something wrong here because you're letting these two do all the work.*

Teacher C- *But it's also because they thought they'd keep it to themselves.*

Teacher A- *They haven't got texts haven't Rob.*

Teacher C- *They're not letting them join in.*

Teacher A- *But I'm wondering if he [Rob] is not that interested that much.*

Teacher C- *But the girls- the A group- they commented on why it was they finished first and Group D always finish last. They said it's because they don't organise themselves properly because we all read a little bit at a time and then we do this... we all do a little bit of drawing but in that group there's only one person who does the drawing.*

Teacher A- *But it changed yesterday didn't it.*

Researcher- *I'm interested on what effect it has if they can look at themselves. Rob was quite embarrassed that it was so obvious he had done nothing.... And it makes you think are the girls good readers because they are organised or are they organised because they are good readers?*

Teacher C- *What about the other group- Group B?*

Researcher- *They've gone the other way. They're loving making the films but....*

Teacher A- *Lily- does she play to the camera? She was wiggling about.....*

Researcher [Plays video of Group B (Appendix D2.18)]- *The problem they had was they were laughing so much they couldn't hold the camera steady enough.*

Video [Sue]- [Laughing]

Teacher A- *Sue has had the odd days off a week up until now.....*

Video [May]- *That cat changes everything.*

Researcher- *So they have the theme- that the cat's changed things. So they're coming at it the other way. They've got the whole story but not really picked up on what's happening in each of the paragraphs. She was saying it was the dad that was not bothered but in the story it's the boy who is pessimistic about not going on the trip. I wasn't sure how to react to this. The obvious thing is to make each person responsible for reading a particular paragraph and then see how this changes things. This is D again. Jon is still dictating somewhat. [Plays video of their retell of the story (See Appendix D2.24)]*

Video [John]- *He's sad because he was taken away from his pets.*

Researcher- *Sadness is probably not such a bad try here...*

Teacher A- *It's a state of consciousness.*

Researcher- *Yes. The detail at the level of narrative is way up on what it was before.*

Video [Ali]- *It was hard work for them and the straw scratched their skin.*

Teacher C- *What was his word? It was to do with the straw wasn't it?*

Teacher B- *Do they ever self correct? So go back and say 'Oh I know what that means'.*

Researcher- *Rather than row and say 'It is, it isn't, it is, it isn't' they're saying 'It says here look, so it can't fit.'*

Teacher C- *When I took Group A to the NUFC room the girls were still talking about it and they went 'We got the first word wrong.... It should have been 'guilty'.*

Teacher B- *So they're continuing to....*

Teacher A- *When Carl... when you give them feedback we get little comments going on. Rob- 'I told you.... I said'.*

Researcher- *Yes. At this point in the video the word is distraction- 'A welcome distraction from my troubles'. That's quite sophisticated but all the groups got that right.*

Teacher C- *Did they?*

Researcher- *Oh yes. Group D did- I remember telling them they had got three out of four.*

Teacher C- *Is that... I thought Sam's group...*

Researcher- *This is D, Sam is in C. He swapped. I thought that was a good idea. Was that your idea?*

Teacher A- *Yes. Well no. It was John who said he wanted to move. I picked up on it as it was happening. I didn't suggest it.*

Video-[Jim's, Ali's and Rob's retell]

Teacher A- *He's being the character.*

Teacher A- *He's reading it.*

Teacher C- *I thought he was reading his version of the story.*

Researcher- *It's not a memory test. We're trying to get them to match what's in the picture with what's in the text. They had a copy of the text in the previous video but the retell was nowhere near as good. It's cross checking with the vocabulary that I'm interested in. Most of them got 'conscience' wrong. Most put 'struggling' with a seat belt. They missed that it was a feeling.*

Teacher A- *It's a lack of experience isn't it? Of reading.*

Teacher B- *It must knock onto that 'struggling' word that they... To know that you struggle with and then to go to that word.... They have got some comprehension. I know you're talking about the wider comprehension but.... Yeah. It's difficult.*

Teacher C- *It's probably easier to struggle with something physical. It's more complex to struggle with....*

Teacher A- *An idea.... It's abstract.*

Researcher- *At the minute it's running like a test. The kids are saying 'We think it's this' and there's not a lot of the text they are interested in. Now we've got more interest in the text but we don't want it to be a guessing game that has no interest in the wider story. We need to move them to a place where they can weigh up both things- what I think and what this person thinks and making the choice between the two.*

Teacher B- *At the moment I imagine we are missing out that middle stage. So I can try and get them to understand the text by asking questions like 'How does that by feel?' and if they haven't got an understanding of what is generally going on in the story, you're asking them things that they can't really access which leads you to knowing the answer they have in their head but willing them to say.... It's not a genuine debate.*

Researcher- *One of the theories I'm working to come's from Vygotsky's block experiment- that kids can come up with an answer intuitively, without knowing or being able to talk about where it came from. With a pseudo-concept, it superficially looks like the right answer but when you probe this decision....and they are doing this in the videos. They are going back to the same answer over and over again and asking why it is right. And this is where Karen and Sam come in, because they were the ones who challenged earlier on. We had a story where the word was 'phone'- it was on a coffee table. They said it could just as easily be 'mobile' which is right. I'm curious as to whether the reading gets more fluent because the retells are better or if the retells only improve if the reading becomes more fluent first.*

Teacher A- *Lily has become a very expressive reader with the RML.*

Teacher C- *She's the one doing the characterisations when they were retelling.*

Teacher A- *Yes. That's just come in the last two weeks. She throws herself into it which is lovely. Whereas the others will have a little bit of a go and then they'll forget it- it will become more monotone.*

Researcher- *Could we bring that more into this?*

Teacher A- *I think it needs to be modelled first and then they get the idea of what is expected. You can't really say to a child you need more intonation because they don't know what you mean.*

Teacher B- *Does that work with the way you have something said but the way it's said is the word, you know? Like 'she growled'.*

Researcher- *In Reading Recovery phrasing means you run words together like 'He said' to make them sound more natural.*

Teacher A- *I've never come across Reading Recovery before. I've heard about it...*

Researcher- *I can come across as a cult and it can be a bit rigid but it's magic when it works. It evolved from close observation of children reading, much as we are doing here.*

Teacher A- I was taught 'Look and see'. There was nothing phonetic at all about my reading. So it's something I've picked up myself over the years- I was at school at the end of the 60's- you had Janet and John and you literally saw the shape of the word and memorised it.

Researcher- That's part of it but Marie Clay's programme is about developing a system of cross checking to kids match sounds with visual cues themselves. That's kind of what we're doing here. Cross checking comprehension rather than comprehension accuracy in fiction and non-fiction.

Teacher A- Year 7 are doing non-fiction at the minute and we're spending two weeks looking at information in textbooks and putting together an information sheet. They lay out the font et cetera. The topic was bats.

Teacher B- I had a really strange experience with..... one of them... he was much better on the non-fiction test materials and was really bad on the fiction and I thought I'd chosen the wrong level completely but I persevered with the non-fiction text and he was.... Cos afterwards I said what do you like reading at home and he said fiction! [Laughs] I expected him to say non-fiction. It felt like there was such a difference. Is there a list of words you're supposed to know by the time you're eleven?

Researcher- The YARC word list is a standardised list of words children that age can read.

Teacher B- So does Rob have the biggest vocabulary?

Researcher [Brings up the test results on the screen]- On word reading his raw score was 45.... Which means he's about average... 10.9. Who came top?

Teacher B- Køn. Køn's pretty good. It's quite frightening that Jøn is a leader and will always be a leader and yet look where he is.

Researcher- With words, yes. But look where he is with text. He's quite visual. He likes working with the whole picture.

Teacher B- He's good at art isn't he? He's good at drawing.

Teacher A- Jøn... This is his best. He loves it.

Researcher [Brings up Jim's test scores on the screen]- This is Jøn's... this is Text 1.

Teacher A- Is Jim only 12? Unless he's got an early birthday he will be. Gosh!

Researcher- Comprehension..... he didn't do very well with Text 1. That was the missing handbag. He scored higher on the second text about bees. He's very careful. His running record, which we can look at, had lots of self corrections. I'll bring it up.

Teacher B- Look at his handwriting.

Teacher A- It's beautiful handwriting.

Researcher- There. That's his running record.

Teacher B- So he said 'dr...'.

Researcher- So he started with 'dr...' and then got 'dread'. Then 'although' he starts with 'al...' and then gets it. 'Aggressive' he spots the first phoneme and then he gets the word. If you think that he comes out of that word reading test at eight years of age and yet he can read aggressive.

Teacher A- There must be an element of EAL [English as an Additional Language] about Jøn. I mean [name], his sister, was very.....

Researcher- This is like what you were saying about Look and See. The word 'bubble' does look like 'bubble'- so he's scanning the beginning and end of the word but the middle gets neglected. He said 'bubble' but he self corrected and he's probably done that because he's figured 'bubble' doesn't make any sense. Very hesitant.... Look here.... He kind of says 'hibernating' but it's not quite right and he fixes it because he realises that it is hibernation. Laborious but his accuracy is not bad. On paper he looks very weak but in the video you can see what he is capable of. Again from Vygotsky his learning is ahead of his level of development.

Researcher- Another one who is interesting is Køn.

Teacher A- She seems to be stuck on a 4C.

Researcher [Brings up Kim's running record]- This again is bees. She's quite a quick reader. But if you look at the errors... On paper it looks like she's struggling, making a lot of errors. The error rate is... she made 15 errors and there are 179 words so she's making one error in twelve. Most of her errors are simple words or omissions. All the tricky stuff she can do or can make an attempt at.

Teacher C- Are the omissions having an impact on her comprehension?

Researcher- Well if you read the text as she read it you'd notice that it sounds wrong.

Teacher B- But she doesn't realise.

Researcher- She's one that doesn't stop but keeps going.

Teacher C- The thing is they don't notice because, like you say, they're not reading for meaning are they?

Researcher- No. Like 'of' and 'to'. That's quite common because one is an inversion of the other, but this error has a big impact on sense and what it sounds like. It happens when kids scan the text quickly.

Teacher B- They did a thing on the internet where there was a piece of writing where the first and last letters were correct but they muddled all the letters in the middle and you could read it perfectly. So we're doing that but as you say we will go back and say 'We've got that wrong' but like the 'bumble' and the 'bubble'.... And we would know that every time we say the shape of that word it must be bumble because of the context.

Researcher- Trick is when you are led up the garden path- when the word you substitute also makes sense. Fluent readers don't monitor everything- they scan. So just before they are discontinued from Reading Recovery often a child's error rate will go up again.

Teacher C- But does their comprehension rate go up as well?

Researcher- It's perhaps a flaw in the programme that comprehension is not addressed directly.

Teacher A- They find it hard to explain in sentences that make sense. They find it hard to formulate the reply in their head and then speak.

Teacher B- I find it.... I know this is terrible as an English teacher. I find it very hard to.... I know what words mean but I'm not one of these people who can instantly go 'It means this'. It really irritates me about myself because my husband can do it- he's really great- he'll go 'Oh. It means duh duh duh'. He's a maths teacher and that really annoys me that he's got that.... I know what it means but I'd say it in a long, long sentence but it's finding that word that sums it up that I find hard.

Researcher- The text should do the work for them. Like nonchalantly- you don't need to know the word so much as know that the cat is not bothered.

Teacher C- You sort of have to understand the development of the characters don't you?

Researcher- I think that's how kids build a vocabulary because they clock that words have slightly different meanings dependent on context. Under pressure of SATs it's probably easy to overlook that and kid then there's only one answer.

Teacher C- It's like reader response.... That you bring yourself to the text... whatever you take from it... I'll read a text differently when I'm ten because my life experiences are different.

[At this point the bell goes for break and the meeting ends. As the staff and researcher prepare to leave, a discussion starts about the nature of tests and testing]

Teacher C- Sometimes those kinds of tests where you can just press a button aren't always the best.... It depends on how they feel on the day. I mean Sam would come out really badly on a test like that because he couldn't be bothered so he will press any button.

Teacher A- I had a group who were really buoyant when they were taken into the library to do a test and not one of them took it seriously. The results that came back were all over the place.

Researcher- A text is a snapshot but what we're doing here is looking at change over time.

Teacher C- I think it's highlighting some things we're seeing in the classrooms.

Teacher B- I think we need a strategy. Because you know and you've seen it all [the videos] it's really convincing. I mean do you understand the class better?

Teacher A- Yes. I like the way they are working in groups.

Teacher C- Has it had an impact on their lessons do you think?

Teacher A- It's been disjointed with absences and days off and I've had a very different class each lesson. But we've been working on non-fiction and they've been working more independently and at their own rate with this. So from this I would definitely put them in similar groups.

Teacher B- They're self-motivated. They know what they're going to do structurally. But not necessarily in terms of content though.

Teacher A- Yes

Teacher B- They're organised to get the equipment ready.

Teacher A- They have this as well. They know how to get the coloured pens and paper that they need.

Teacher C- Is the reading project showing you new things or has it just reinforced things you already knew?

Teacher A- It has reinforced a lot- I might seem smug at times [laughs]- I could have told them that! Especially about the routines. I've been saying it so much but it doesn't have an impact.

Researcher- It seems to dovetail with the REM reading programmes that you run.

Teacher A- Yes, but it's just good primary practice.... Nothing new. You know, that's where I got it from. You have to be really organised and that is what happens in these sessions- it's really well organised. Your materials are there. How do you find your texts? I've been asking for help with texts for years.... I ask again and again but I still haven't got any texts that are suitable for secondary. I'd like to be introduced to different texts.

Teacher C- I think taking an extract from a text works because it encourages them to fill in the gaps in the middle.

Teacher A- I use these.... There's a stage three and a stage four and there are all these extracts from the text. What's good about this is that there's a teachers' pack so if you are not an expert English teacher like myself you're pointed in the right direction and you're covering the right things. This is from the middle school but it's seven years old. 'Miss! Miss! Can we read the whole thing now?' I've heard that so many times. Once you're reading and the students are into it they don't want you to miss bits out do they? I missed big chunks out of *Private Peaceful*.... I'll summarise it for you'. No! They wouldn't have it at all. They begged me to read it.